Coastal Systems Portfolio Initiative

Technical Review of Coastal Projects:

Shore Protection, Navigation and Ecosystem Restoration for North and South Atlantic Divisions

Existing Conditions, Resources at Risk, Estimated Future Costs, Opportunities for Action

Spring 2011

US Army Corps of Engineers®

New York

Coney Island (before)

Coney Island (after)

New Jersey

Sea Bright (before)

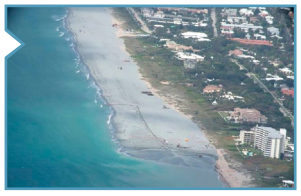
Sea Bright (after)

South Carolina

Hunting Island (before)

Hunting Island (after)

Florida



Delray Beach (before)

Delray Beach (after)

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Introduction

The U.S. Army Corps of Engineers (USACE) provides coastal storm damage reduction (or coastal risk reduction) as an important part of its civil works mission – through measures like beach nourishment – under the Flood Risk Management Program. Other business lines such as navigation and coastal ecosystem restoration have strong links to the mission of providing comprehensive coastal risk reduction. The development of a systems approach to reduce damages and better manage risk due to coastal storms is crucial to demonstrating the significance of the service provided to the nation by the USACE Flood Risk Management Program through economic development, coastal ecosystem restoration, and navigation. The connectivity between these three business lines must be considered when developing a systems approach to coastal risk reduction.

This document, "A Technical Review of Coastal Projects: Shore Protection, Navigation, and Ecosystem Restoration for North and South Atlantic Divisions" includes projects from Maine to Mississippi. It was compiled from a systems analysis performed by the New England, New York, Philadelphia, Baltimore, Norfolk, Wilmington, Charleston, Savannah, Jacksonville, and Mobile Districts, USACE.

Public entities that manage shore protection in the United States face tough decisions

As the federal agency authorized by Congress to study, plan, design, construct, and renourish coastal risk reduction projects, the USACE is tasked with providing technical input on current and future needs for coastal projects. Accurate, up-to-date, and accessible technical information serves as a valuable resource for decision makers responsible for making balanced, information-based decisions for managing coastal programs.

This technical review presents the "big picture" about current and future needs for coastal projects from Maine to Mississippi. As the nation's engineer, the USACE collected and presented technical data and estimated costs, with consideration of project reliability and risk. The process used by the USACE to examine federal projects as a total system instead of as individual projects will continue to be refined over time. This technical review is an initial systems-based tool that decision makers at any level can use to make more informed judgments as they manage coastal risk reduction projects in the United States, both now and in the near future.

Montauk Point, New York

A Systems Approach

Numerous federal shore protection, navigation and ecosystem restoration projects are found along the Nation's coastline. The USACE initiated a process that begins to examine and evaluate federal projects in this region as a system of systems instead of as individual projects. The process was summarized in a technical review document in Spring 2007 and has been revised on an annual basis ever since. USACE has a significant interest in finding new ways to continuously improve how it plans, designs, manages, and implements federal coastal risk reduction projects.

The technical review of coastal projects presents a qualitative analysis of existing conditions, estimated federal future costs (over a five year period), and opportunities for action. The technical review document and web-based Geographic Information System (GIS) database includes a series of tables that show existing conditions at Federal coastal projects. These tables identify coastal projects by current project phase and project type, and provide an overview of project reliability where construction is either complete or under way, as well as project areas where studies are ongoing. The reliability-shore protection condition rating, developed in the technical review document, provides a qualitative assessment of the need for project renourishment, based on an evaluation of the project's existing profile condition compared to its design profile. This rating was recently incorporated into the FY13 Flood Risk Management budget engineering circular and is being used in the development of the FY13 budget. This assessment should be performed bi-annually, on or around April 1 and October 1 to capture a more accurate snapshot of the physical condition of the beach following winter and summer seasons when the most significant changes occur to a beach profile and the project design condition.

The resources at risk are those resources that are at risk at all times, no matter what the condition of the coastal project is. In other words, resources at risk are the resources being "protected" by the project or those resources that would be impacted if a project did not exist. The rating of resources at risk should not change based upon project reliability (or condition), but should only change if the actual resources change, i.e. new infrastructure is constructed, recreational opportunities are created, etc.

The tables also identify estimated federal future costs required to address total needs for federal coastal projects, by state, over the next five years. These tables will be updated annually to reflect changes in project phases and estimated future costs.

This technical review neither establishes priorities for project funding, nor attempts to suggest, influence, or provide input to the federal budgetary process. Rather, federal costs per year and total federal costs presented here are based solely on existing technical plans, programs, and schedules in authorizing documents from Congress and project renourishments and maintenance operations performed to date.

Compilation of Information

A significant amount of information was collected and analyzed to prepare this technical review. The USACE study team first identified federal projects along the Atlantic coastline in this sixteen-state area, gathered project data, populated the Coastal Systems Portfolio Initiative web database with the project information, created a web database, analyzed project data, and established and evaluated relationships between projects. The password-protected web database is accessible at http://cspi.usace.army.mil/.

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Parameters for Evaluation

The USACE study team considered the following questions:

- **Project reliability.** How critical is the need for renourishment?
- **Type and extent of resources at risk.** What types of resources are at risk in the area? How important are these resources? How many of these resources exist? What is the estimated risk to these resources?
- **Connectivity and relationship of regional or adjacent projects.** How are coastal risk reduction projects related to other projects nearby, such as navigation and ecosystem restoration projects? What links can be made between adjacent projects using a systems-based approach?
- **Originally scheduled renourishment.** Was the project's originally scheduled renourishment performed on time, or has renourishment been delayed?

Supporting technical data for all coastal projects included in this technical review is available in the web database. The following additional data where applicable, was compiled for each shore protection, navigation, and ecosystem restoration project:

- USACE and Congressional districts;
- Project dates (reconnaissance, feasibility study, chief's report, authorized for construction, reevaluation report, pre-construction engineering and design, and initial construction initiated/completed);
- Project location (starting and ending latitude and longitude);
- Project length (miles);
- Initial fill quantity (estimated and actual);
- Renourishment cycle (years);
- Renourishment fill quantity (estimated and actual);
- Date of last renourishment operation (completed);
- Number of renourishment operations performed;
- Date of next scheduled renourishment operation;
- Cumulative construction cost (estimated and actual);
- Dredge operation cycle (years);
- Dredge volume removed (actual); and
- Dredge material placement.

Summary

This technical review presents the "big picture" about current and future needs for coastal projects from Maine to Mississippi. As the nation's engineer, the USACE collected and presented technical data and estimated costs, with consideration of project reliability and risk. The process used by the USACE to examine federal projects as a total system instead of as individual projects will continue to be refined over time. In the meantime, this technical review is an initial systems-based tool that decision makers at any level can use to make more informed judgments as they manage coastal risk reduction projects in the United States, both now and in the near future.

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Interpreting the Tables

Existing Conditions Tables

Project Type

Projects are classified into **three types**:

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Projects are listed in order by **geographic area** within a state. Navigation and ecosystem restoration projects are listed to allow consideration of **relationships** to adjacent shore protection projects.

Phase

Both **constructed** and **unconstructed** projects are identified by phase.

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

- In general, constructed projects are either in phase P, C, or R.
- In general, unconstructed projects are either in phase S, E, or A.
- Navigation projects undergoing maintenance are in phase N.

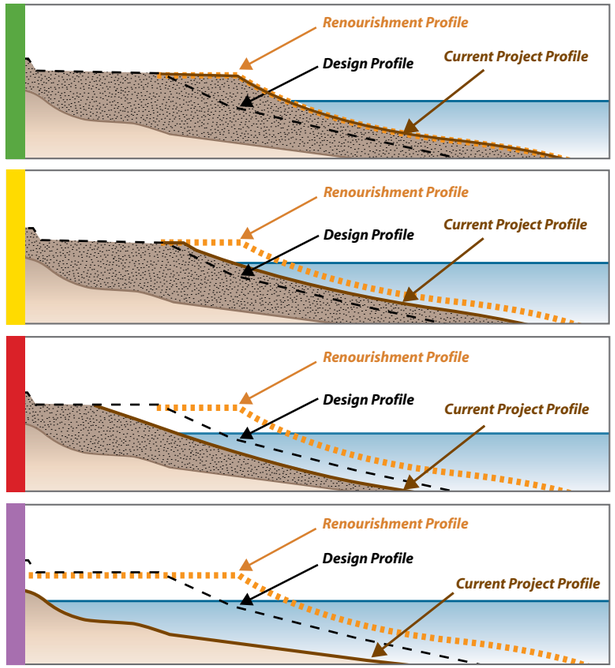
Project Reliability: Shore Protection

- **Constructed Projects**

  All **constructed** shore projection projects listed in the Existing Conditions tables are color coded so that readers can determine **current project reliability at a glance**. For example, “red” shore protection projects are less reliable than “yellow” shore protection projects. “Yellow” shore protection projects are less reliable than “green” shore protection projects, which are performing well.

- **Unconstructed Projects**

  All **unconstructed** shore protection projects listed in the Existing Conditions tables are color coded in purple. These projects have significant shore protection problems identified.



These diagrams – which compare the **current project profile** with the **design profile** and the **renourishment profile** – give readers a general sense of **overall project reliability** for projects identified as either green, yellow, red, or purple.

Green = Good
Project is early in the renourishment cycle, or the project is performing better than expected, or both.

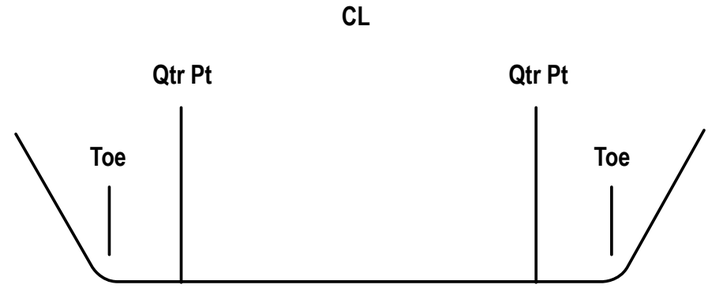
Yellow = Intermediate
Project is midway through the renourishment cycle, or the project is performing worse than expected, or both.

Red = Poor
Project is late in the renourishment cycle or below the design profile.

Purple = Unconstructed
Project reliability is not applicable for unconstructed projects. These projects have significant shore protection problems identified.

Project Reliability: Navigation

- All **navigation** projects listed in the Existing Conditions tables are color coded so that readers can determine **current project reliability at a glance**. For example, “red” navigation projects are less reliable than “yellow” navigation projects. “Yellow” navigation projects are less reliable than “green” navigation projects, which are performing well.
- Project reliability is determined according to the idea of probability and condition and involves the Half Channel Availability Percentage. This is the amount of time (during a 1-yr period) that the channel is available at maintained depths between the quarter points, see diagram. The quarter points represent the location of the channel dredged to its maintained depth.



Green = Good
95% at half channel availability at maintained depth.

Yellow = Moderate
75% at half channel availability at maintained depth.

Orange = Poor
50% at half channel availability at maintained depth.

Pink = Failing
25% at half channel availability at maintained depth.

Red = Failed
0% at half channel availability at maintained depth.

Interpreting the Tables

Extent of Resources at Risk: Shore Protection

The study team evaluated the extent of resources at risk in each shore protection project area. The extent of resources was judged as either **significant, moderate**, or **minimal** for both constructed and unconstructed shore projection projects. Any category with **no resources** present contains an (x).

The resources at risk are those resources that are at risk at all times, no matter what the condition of the coastal project is. In other words, resources at risk are the resources being "protected" by the project or those resources that would be impacted if a project did not exist. The rating of resources at risk should not change based upon project reliability (or condition), but should only change if the actual resources change, i.e. new infrastructure is constructed, recreational opportunities are created, etc.

• • • = Significant resources present
• • = Moderate resources present
• = Minimal resources present
x = No resources present

Six resource types were evaluated:

- **Structures** (residential, commercial)
  - • • • = High development, urban area
  - • • = Medium development, suburban area
  - • = Low development, rural area
- **Environment and Habitat**
  - • • • = Critical or highly valued natural habitat
  - • • = Valued natural habitat
  - • = Little or no natural habitat
- **Infrastructure** (such as roads, water/sewer lines, boardwalks, and navigation structures)
  - • • • = Facilities serving a highly developed urban area
  - • • = Facilities serving a medium developed suburban area
  - • = Facilities serving a low developed rural area
- **Critical Facilities** (such as police, fire, schools, hospitals, and nursing homes)
  - • • • = High density of facilities
  - • • = Medium density of facilities
  - • = Low density of facilities
- **Evacuation Routes**
  - • • • = Routes serving a high-density population
  - • • = Routes serving a medium-density population
  - • = Routes serving a low-density population
- **Recreation**
  - • • • = High-use recreation area
  - • • = Medium-use recreation area
  - • = Low-use recreation area

Extent of Resources at Risk: Navigation

The study team evaluated the extent of resources at risk in each navigation project area. The extent of resources was rated from 1-5 for all navigation projects. These values represent the Consequences/Economic Impact Rating identified in the Navigation business line budget inputs.

Risk Level	Risk Description
1	• Demonstrated highest economic impact or >10M Tons • Imminent life safety impact • Court Decree Mandated Action (to include environmental) • DoD Strategic Ports • Shut down of Energy Distribution Facilities with no alternate modes of transportation
2	• Demonstrated high economic impact or 5-10M Tons • Probable life safety impact • Alternate modes of transportation exist for Energy Distribution Facilities, but at a higher cost than water borne transportation
3	• Demonstrated moderate economic impact or 1-5M Tons • Possible life safety impact
4	• Low economic impact or <1M Tons • No life safety impact
5	• Negligible economics (Recreation Harbors, No commercial Activity) • No life safety impact

Estimated Future Federal Costs Tables

These tables identify estimated federal future costs required to **address total needs for federal shore protection**, navigation, and ecosystem restoration projects by state over the next five years. Each state's table of estimated future costs includes notes about **connectivity** between adjacent shore protection, navigation, and ecosystem restoration projects. These connectivity notes identify potential economies of scale and cost savings that could be achieved in the future by considering these shore protection projects using a systems-based approach.

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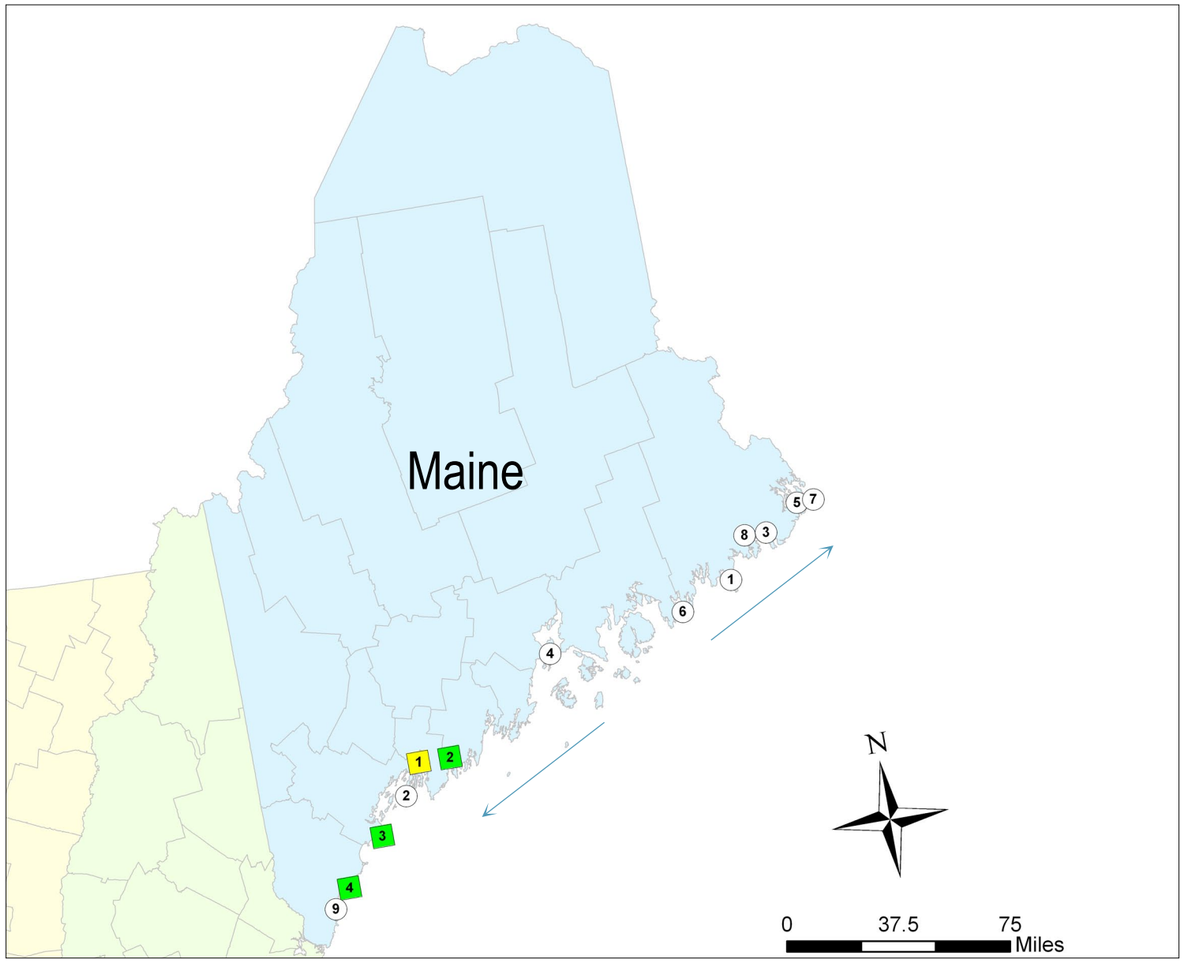


Maine

PROJECT LEGEND

Key	Type	Project Name
Geographic Area: Northeastern Maine		
1	NV	Kennebec River - Below Bath
2	NV	Kennebunk River
3	NV	Scarborough River
4	NV	Wells Harbor
(1)	SP	Alley Bay, Beals
(2)	SP	Merriconeag Sound, Harpswell
(3)	SP	Holmes Bay, Whiting
(4)	SP	Islesboro (The Narrows)
(5)	SP	Johnson Bay, Lubec
(6)	SP	Sand Cove, Gouldsboro
(7)	SP	Roosevelt Campobello International Park, Lubec
(8)	SP	Machias Bay, Machiasport
Geographic Area: Southwestern Maine		
(9)	SP	Marginal Way, Ogunquit

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

(S) = STATEWIDE PROJECT

Holmes Bay

Kennebec River

Maine

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Northeastern Maine								
NV	Kennebec River - Below Bath	N							1
NV	Kennebunk River	N							3
NV	Scarborough River	N							4
NV	Wells Harbor	N							4
SP	Alley Bay, Beals	C	••	•	••	•	•	•	
SP	Merriconeag Sound, Harpswell	C	••	•	••	•	•	•	
SP	Holmes Bay, Whiting	C	•	•	•	•	•	•	
SP	Islesboro (The Narrows)	C	•	•	•	•	•••	•	
SP	Johnson Bay, Lubec	C	•	•	•	•	•••	•	
SP	Sand Cove, Gouldsboro	C	•	•	•••	•••	•••	•	
SP	Roosevelt Campobello International Park, Lubec	C	•••	•	••	•	•	•	
SP	Machias Bay, Machiasport	C	••	•	•••	•••	•••	•	
	Geographic Area: Southwestern Maine								
SP	Marginal Way, Ogunquit	C	••	•	••	•	•	•••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

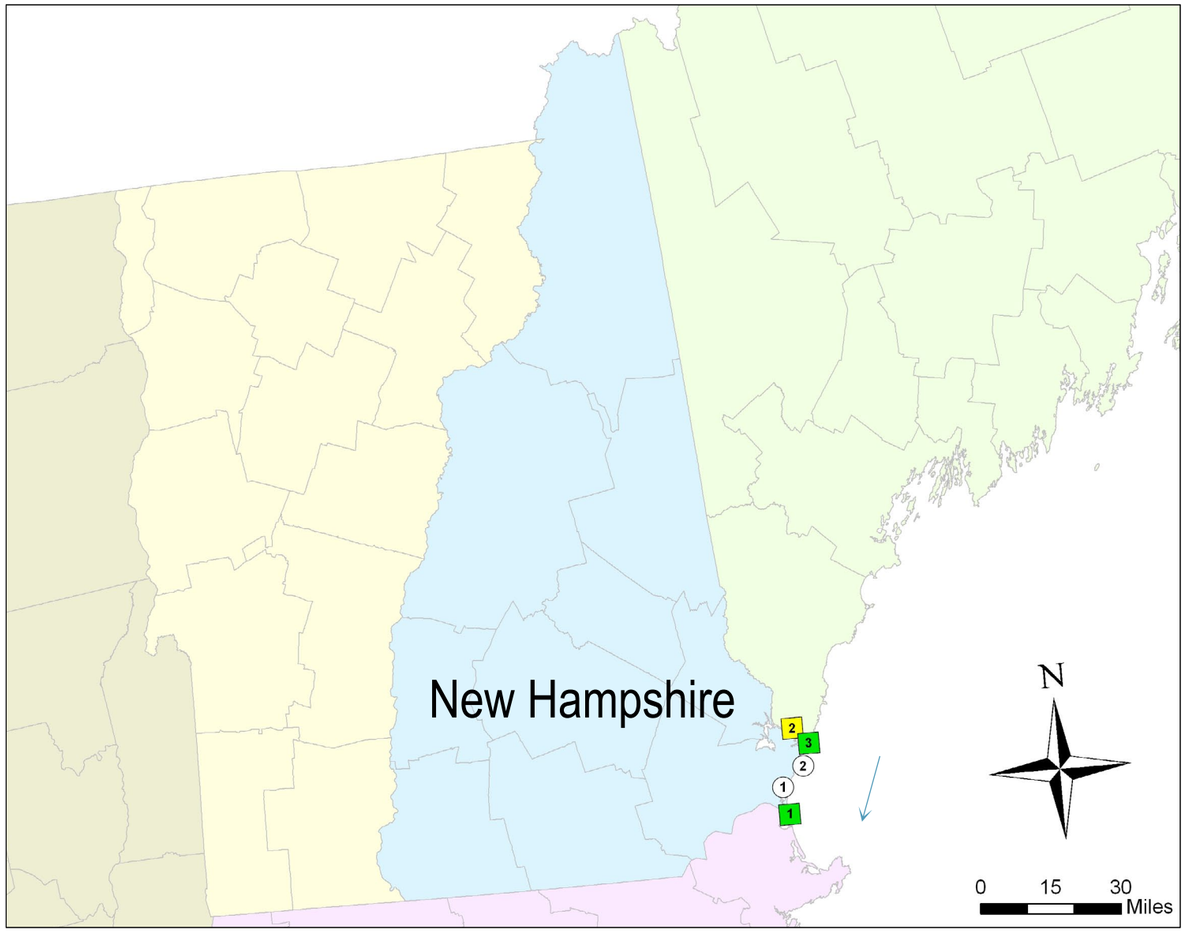
Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.
For complete definitions see page 7.

Maine

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
	Geographic Area: Northeastern Maine						
Kennebec River - Below Bath	N	$1,000,000	$0	$1,000,000	$0	$0	$0
Kennebunk River	N	$350,000	$0	$0	$0	$0	$350,000
Scarborough River	N	$2,800,000	$0	$0	$2,800,000	$0	$0
Wells Harbor	N	$3,000,000	$0	$0	$0	$3,000,000	$0
Alley Bay, Beals	C	$0	$0	$0	$0	$0	$0
Merriconeag Sound, Harpswell	C	$0	$0	$0	$0	$0	$0
Holmes Bay, Whiting	C	$0	$0	$0	$0	$0	$0
Islesboro (The Narrows)	C	$0	$0	$0	$0	$0	$0
Johnson Bay, Lubec	C	$0	$0	$0	$0	$0	$0
Sand Cove, Gouldsboro	C	$0	$0	$0	$0	$0	$0
Roosevelt Campobello International Park, Lubec	C	$0	$0	$0	$0	$0	$0
Machias Bay, Machiasport	C	$0	$0	$0	$0	$0	$0
Geographic Area: Southwestern Maine							
Marginal Way, Ogunquit	C	$0	$0	$0	$0	$0	$0
Totals		$7,150,000	$0	$1,000,000	$2,800,000	$3,000,000	$350,000

Opportunities for Action

1. Future maintenance material removed from the **Kennebec River** will be placed in an offshore site. There are no beneficial use sites nearby.



New Hampshire

PROJECT LEGEND

Key	Type	Project Name
Geographic Area: Coastal New Hampshire		
1	NV	Hampton Harbor
2	NV	Portsmouth Harbor - Main Channels and Turning Basin
3	NV	Little Harbor
(1)	SP	Hampton Beach, Hampton
(2)	SP	Wallis Sand State Beach, Rye

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

(S) = STATEWIDE PROJECT

Hampton Harbor

Wallis Sands State Beach

New Hampshire

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
			Geographic Area: Coastal New Hampshire						
NV	Hampton Harbor	N							2
NV	Portsmouth Harbor - Main Channels and Turning Basin	N							1
NV(1)	Little Harbor	N							4
SP	Hampton Beach, Hampton	C	•	•	•	•	•	•••	
SP	Wallis Sand State Beach, Rye	C	•	•	•	•	•	•••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Footnotes

(1) Little Harbor was last dredged 2000/2001. It generated approximately 40,000 cy, which was placed near shore of Wallis Sand beach in Rye, NH.

New Hampshire

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
		Geographic Area: Coastal New Hampshire					
Hampton Harbor	N	$1,700,000	$1,700,000	$0	$0	$0	$0
Portsmouth Harbor - Main Channels and Turning Basin	N	$1,500,000	$1,500,000	$0	$0	$0	$0
Little Harbor	N	$1,100,000	$0	$0	$0	$100,000	$1,000,000
Hampton Beach, Hampton	C	$0	$0	$0	$0	$0	$0
Wallis Sand State Beach, Rye	C	$0	$0	$0	$0	$0	$0
Totals		$4,300,000	$3,200,000	$0	$0	$100,000	$1,000,000

Opportunities for Action

1. Planned maintenance of **Portsmouth Harbor** will generate 50,000 cy of clean sand and gravel which is not suitable for beach nourishment nor would it be cost effective to take it beyond the in-river disposal site already identified.

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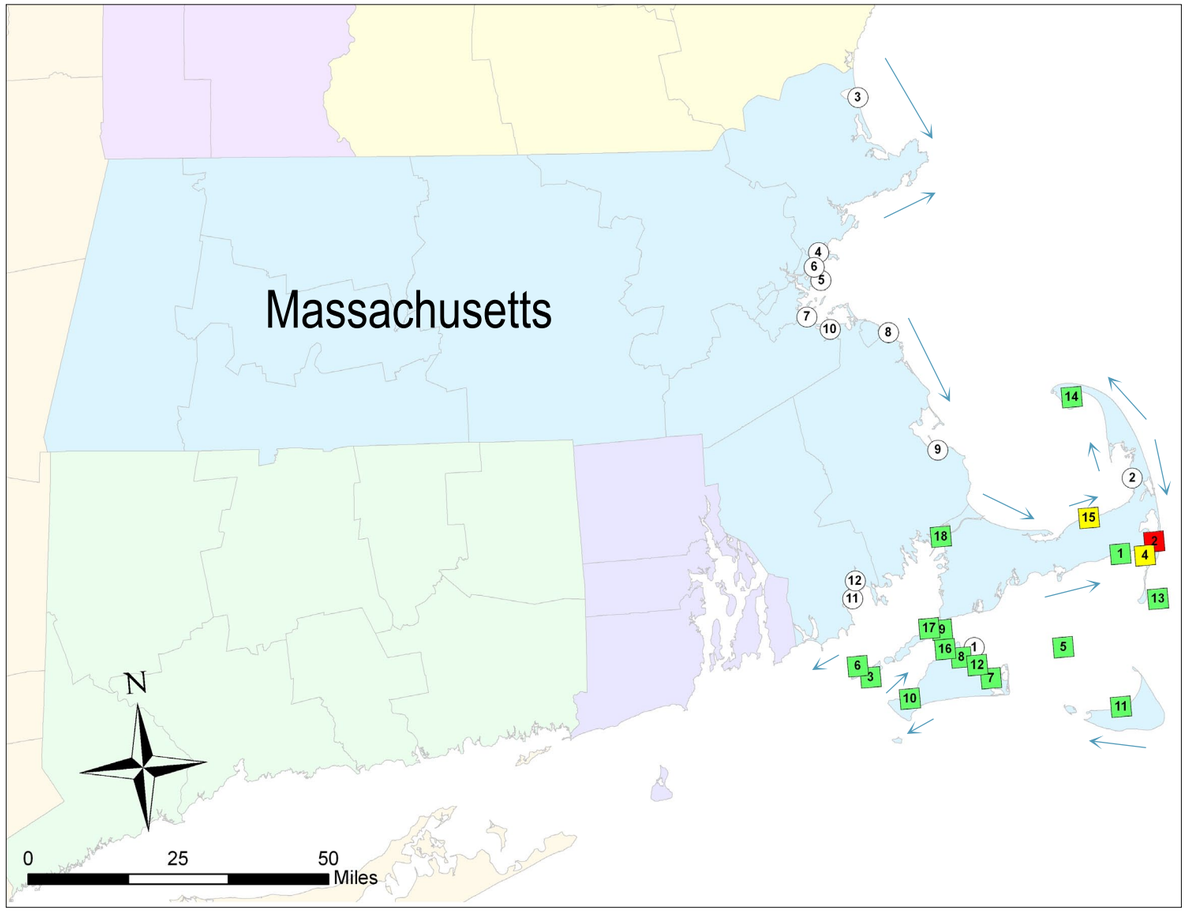

Massachusetts

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: Cape Cod and the Islands
1	NV	Andrews River (Saquatucket Harbor)
2	NV	Aunt Lydia's Cove (Chatham Harbor)
3	NV	Canapitsit Channel - Canal Channel
4	NV	Chatham (Stage) Harbor
5	NV	Cross Rip Shoals
6	NV	Cuttyhunk Harbor
7	NV	Edgartown Harbor
8	NV	Lagoon Pond
9	NV	Little Harbor at Woods Hole
10	NV	Menemsha Creek
11	NV	Nantucket Harbor of Refuge
12	NV	Oak Bluffs Harbor
13	NV	Pollock Rip Shoals
14	NV	Provincetown Harbor
15	NV	Sesuit Harbor
16	NV	Vineyardhaven Harbor
17	NV	Woods Hole Channel
1	SP	Oak Bluffs Town Beach
2	SP	Thumperton Beach, Eastham
		Geographic Area: Massachusetts Bay
3	SP	Plum Island Beach, Newbury
4	SP	Revere Beach
5	SP	Winthrop Beach
6	SP	Roughans Point, Revere
7	SP	Quincy Shore Beach, Quincy
8	SP	North Scituate Beach, Scituate
9	SP	Town Beach, Plymouth
10	SP	Wessagusset Beach, Weymouth
		Geographic Area: South Coast
18	NV	Buttermilk Bay Channel
11	SP	Clark Point Beach, New Bedford
12	SP	New Bedford Hurricane Barrier

Shore Protection Projects Project Reliability

- = GOOD
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Navigation Projects Project Reliability

- = GOOD
- = MODERATE
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- = FAILING
- = FAILED
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△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Buttermilk Bay

Cuttyhunk Island

Massachusetts

			Extent of Resources at Risk						
			Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
Project Type	Project Name and Project Reliability	Phase	Geographic Area: Cape Cod and the Islands						
NV	Andrews River (Saquatucket Harbor)	N							2
NV	Aunt Lydia's Cove (Chatham Harbor)	N							2
NV	Canapitsit Channel - Canal Channel	N							5
NV	Chatham (Stage) Harbor	N							2
NV	Cross Rip Shoals	N							1
NV	Cuttyhunk Harbor	N							4
NV	Edgartown Harbor	N							3
NV	Lagoon Pond	N							4
NV	Little Harbor at Woods Hole	N							2
NV	Menemsha Creek	N							2
NV	Nantucket Harbor of Refuge	N							2
NV	Oak Bluffs Harbor	N							2
NV	Pollock Rip Shoals	N							1
NV	Provincetown Harbor	N							2
NV	Sesuit Harbor	N							1
NV	Vineyardhaven Harbor	N							2
NV	Woods Hole Channel	N							2
SP	Oak Bluffs Town Beach	C	•	•	•	•	•	•••	
SP	Thumperton Beach, Eastham	C	•	••	•	•	•	•••	
	Geographic Area: Massachusetts Bay								
SP	Plum Island Beach, Newbury	C	•	•	•	•	•	•••	
SP	Revere Beach	C	••	•	•	•	•	•••	
SP	Winthrop Beach	C	••	•	•	•	•	••	
SP	Roughans Point, Revere	C	•••	•	••	••	••	•	
SP	Quincy Shore Beach, Quincy	C	•	•	•	•	•	•••	
SP	North Scituate Beach, Scituate	C	•	•	•	•	•	•••	
SP	Town Beach, Plymouth	C	•	•	•	•	•	••	
SP	Wessagusset Beach, Weymouth	C	•	•	•	•	•	••	
	Geographic Area: South Coast								
NV	Buttermilk Bay Channel	N							4
SP	Clark Point Beach, New Bedford	C	•	•	•	•	•	••	
SP	New Bedford Hurricane Barrier	C	•	•	•	•	•	•••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Click legend for more information.

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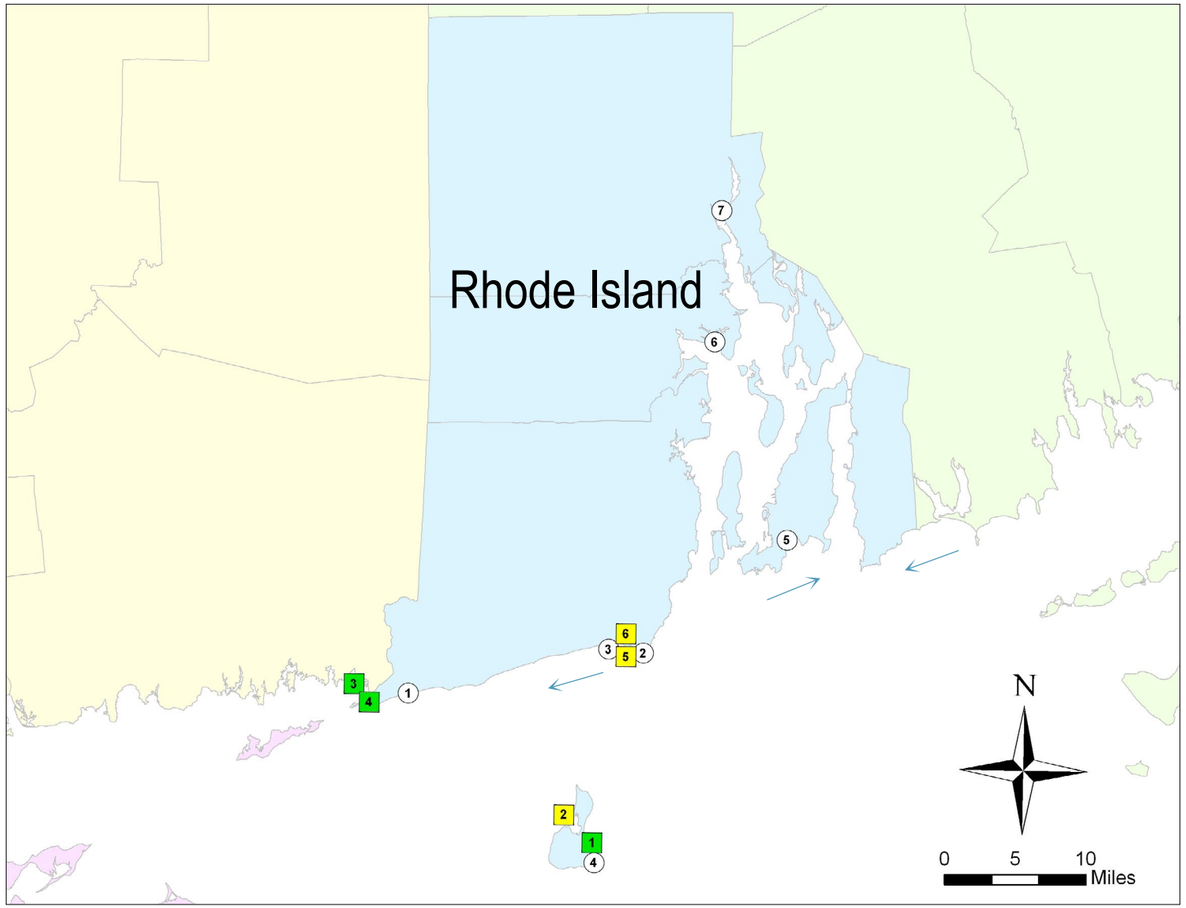
Massachusetts

		Estimated Future Federal Costs					
		Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Project Name and Project Reliability	Phase	Geographic Area: Cape Cod and the Islands					
Andrews River (Saquatucket Harbor)	N	$400,000	$0	$150,000	$0	$0	$250,000
Aunt Lydia's Cove (Chatham Harbor)	N	$1,660,000	$0	$410,000	$410,000	$420,000	$420,000
Canapitsit Channel - Canal Channel	N	$0	$0	$0	$0	$0	$0
Chatham (Stage) Harbor	N	$510,000	$0	$250,000	$0	$0	$260,000
Cross Rip Shoals	N	$0	$0	$0	$0	$0	$0
Cuttyhunk Harbor	N	$250,000	$0	$0	$0	$250,000	$0
Edgartown Harbor	N	$0	$0	$0	$0	$0	$0
Lagoon Pond	N	$0	$0	$0	$0	$0	$0
Little Harbor at Woods Hole	N	$0	$0	$0	$0	$0	$0
Menemsha Creek	N	$0	$0	$0	$0	$0	$0
Nantucket Harbor of Refuge	N	$300,000	$0	$0	$0	$0	$300,000
Oak Bluffs Harbor	N	$0	$0	$0	$0	$0	$0
Pollock Rip Shoals	N	$0	$0	$0	$0	$0	$0
Provincetown Harbor	N	$0	$0	$0	$0	$0	$0
Sesuit Harbor	N	$460,000	$0	$200,000	$0	$0	$260,000
Vineyardhaven Harbor	N	$0	$0	$0	$0	$0	$0
Woods Hole Channel	N	$0	$0	$0	$0	$0	$0
Oak Bluffs Town Beach	C	$0	$0	$0	$0	$0	$0
Thumperton Beach, Eastham	C	$0	$0	$0	$0	$0	$0
Geographic Area: Massachusetts Bay							
Plum Island Beach, Newbury	C	$0	$0	$0	$0	$0	$0
Revere Beach	C	$0	$0	$0	$0	$0	$0
Winthrop Beach	C	$0	$0	$0	$0	$0	$0
Roughans Point, Revere	C	$0	$0	$0	$0	$0	$0
Quincy Shore Beach, Quincy	C	$0	$0	$0	$0	$0	$0
North Scituate Beach, Scituate	C	$0	$0	$0	$0	$0	$0
Town Beach, Plymouth	C	$0	$0	$0	$0	$0	$0
Wessagusset Beach, Weymouth	C	$0	$0	$0	$0	$0	$0
Geographic Area: South Coast							
Buttermilk Bay Channel	N	$2,100,000	$0	$0	$200,000	$1,900,000	$0
Clark Point Beach, New Bedford	C	$0	$0	$0	$0	$0	$0
New Bedford Hurricane Barrier	C	$0	$0	$0	$0	$0	$0
Totals		$5,680,000	$0	$1,010,000	$610,000	$2,570,000	$1,490,000

Opportunities for Action

1. Future maintenance material removed from **Chatham (Stage) Harbor** and **Aunt Lydia's Cove (Chatham Harbor)** will be placed in a nearshore site. There are no beneficial use sites nearby.

CLICK TO TURN



Rhode Island

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: South Shore
1	NV	Block Island Harbor of Refuge (Old Harbor)
2	NV	Great Salt Pond (New Harbor)
3	NV	Pawcatuck River - Sandy Point Channel
4	NV	Pawcatuck River - Watch Hill Cove
5	NV	Point Judith Pond & Harbor of Refuge - Refuge Anchorage
6	NV	Point Judith Pond & Harbor of Refuge - Galillee Harbor Channels
(1)	SP	Misquamicut Beach, Westerly
(2)	SP	Sand Hill Cove Beach
(3)	SP	Matunuck Beach, South Kingstown
(4)	SP	Southeast Lighthouse, Block Island
		Geographic Area: Narragansett Bay
(5)	SP	Cliff Walk, Newport
(6)	SP	Oakland Beach, Warwick
(7)	SP	Fox Point Hurricane Barrier, Providence

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Great Salt Pond

Point Judith

GO TO BACK
CLICK TO TURN
CLICK TO TURN
CLICK TO TURN
CLICK TO TURN

Rhode Island

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: South Shore								
NV	Block Island Harbor of Refuge (Old Harbor)	N							2
NV	Great Salt Pond (New Harbor)	N							3
NV	Pawcatuck River - Sandy Point Channel	N							3
NV	Pawcatuck River - Watch Hill Cove	N							4
NV	Point Judith Pond & Harbor of Refuge - Refuge Anchorage	N							2
NV	Point Judith Pond & Harbor of Refuge - Galillee Harbor Channels	N							2
SP	Misquamicut Beach, Westerly	C	•	•	•	•	•	•••	
SP	Sand Hill Cove Beach	C	•	••	••	•	•	•••	
SP	Matunuck Beach, South Kingstown	C	••	••	•	•	•	•	
SP	Southeast Lighthouse, Block Island	C	•••	•	•	•	•	•	
	Geographic Area: Narragansett Bay								
SP	Cliff Walk, Newport	C	•	•	••	•	•	•	
SP	Oakland Beach, Warwick	C	•	•	•	•	•	•••	
SP	Fox Point Hurricane Barrier, Providence	C	•	•	•	•	•	•••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

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Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
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P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
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x = None

Navigation
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For complete definitions see page 7.

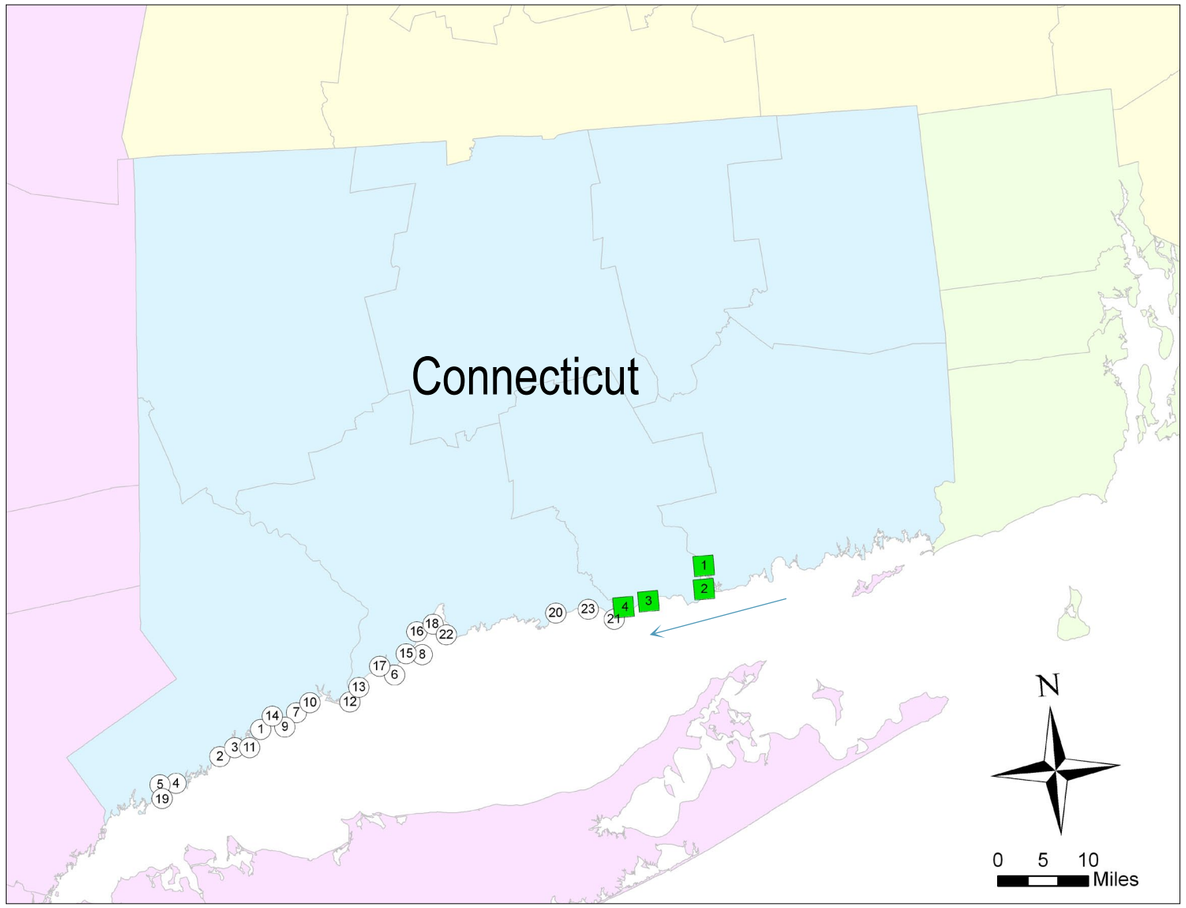
Click legend for more information.

Rhode Island

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
		Geographic Area: South Shore					
Block Island Harbor of Refuge (Old Harbor)	N	$600,000	$0	$0	$300,000	$0	$300,000
Great Salt Pond (New Harbor)	N	$500,000	$0	$250,000	$0	$250,000	$0
Pawcatuck River - Sandy Point Channel	N	$3,500,000	$0	$3,500,000	$0	$0	$0
Pawcatuck River - Watch Hill Cove	N	$0	$0	$0	$0	$0	$0
Point Judith Pond & Harbor of Refuge - Refuge Anchorage	N	$0	$0	$0	$0	$0	$0
Point Judith Pond & Harbor of Refuge - Galillee Harbor Channels	N	$0	$0	$0	$0	$0	$0
Misquamicut Beach, Westerly	C	$0	$0	$0	$0	$0	$0
Sand Hill Cove Beach	C	$0	$0	$0	$0	$0	$0
Matunuck Beach, South Kingstown	C	$0	$0	$0	$0	$0	$0
Southeast Lighthouse, Block Island	C	$0	$0	$0	$0	$0	$0
		Geographic Area: Narragansett Bay					
Cliff Walk, Newport	C	$0	$0	$0	$0	$0	$0
Oakland Beach, Warwick	C	$0	$0	$0	$0	$0	$0
Fox Point Hurricane Barrier, Providence	C	$0	$0	$0	$0	$0	$0
Totals		$4,600,000	$0	$3,750,000	$300,000	$250,000	$300,000

Opportunities for Action

1. Recent maintenance dredging of the **Providence River** yielded no suitable nourishment material for **Oakland Beach**.
2. Recent maintenance dredging activities from **Pt. Judith Pond** were placed near shore to nourish **Matunuck Beach**.
3. Recent maintenance of the **Great Salt Pond (New Harbor)** and **Block Island Harbor of Refuge (Old Harbor)** resulted in near shore disposal to nourish local beaches. These maintenance activities were combined utilizing the USACE hopper dredge (The Currituck). Opportunities to combine dredging activities like this are dependent on timely appropriations.



Direction of sediment flow

Connecticut

Key	Type	Project Name
		Geographic Area: Western Connecticut
1	SP	Burrial Hill Beach, Westport
2	SP	Calf Pasture Beach Park, Norwalk
3	SP	Compo Beach, Westport
4	SP	Cove Island, Stamford
5	SP	Cummings Park, Stamford
6	SP	Gulf Beach, Milford
7	SP	Jennings Beach, Fairfield
8	SP	Prospect Beach, West Haven
9	SP	Sasco Hill Beach, Fairfield
10	SP	Seaside Park
11	SP	Sherwood Island State Park, Westport
12	SP	Short Beach
13	SP	Silver Beach to Cedar Beach
14	SP	Southport Beach
15	SP	Woodmont Beach, Milford
16	SP	Sea Bluff Beach, West Haven
17	SP	Gulf Street
18	SP	Sandy Point Outfall, West Haven
19	SP	Stamford Hurricane Barrier
		Geographic Area: Eastern Connecticut
1	NV	Connecticut River Below Hartford - Saybrook Shoals (Entrance)
2	NV	Connecticut River Below Hartford - Lower Bars (Below Middletown)
20	SP	Guilford Point Beach (Jacobs Beach), Guilford
3	NV	Patchogue River
4	NV	Clinton Harbor
21	SP	Hammonasset Beach, Madison
22	SP	Lighthouse Point Park, Area 9
23	SP	Middle Beach

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

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S = STATEWIDE PROJECT

Calf Pasture Beach

Sherwood Island Park

Connecticut

			Extent of Resources at Risk						
			Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
Project Type	Project Name and Project Reliability	Phase	Geographic Area: Western Connecticut						
SP	Burrial Hill Beach, Westport	C	•	•	•	•	•	•••	
SP	Calf Pasture Beach Park, Norwalk	C	•	•	•	•	•	•••	
SP	Compo Beach, Westport	C	•	•	•	•	•	•••	
SP	Cove Island, Stamford	C	•	•	•	•	•	•••	
SP	Cummings Park, Stamford	C	•	•	•	•	•	•••	
SP	Gulf Beach, Milford	C	•	•	•	•	•	••	
SP	Jennings Beach, Fairfield	C	•	•	•	•	•	••	
SP	Prospect Beach, West Haven	C	••	•	•	•	•	••	
SP	Sasco Hill Beach, Fairfield	C	•	•	•	•	•	••	
SP	Seaside Park	C	•	•	•	•	•	••	
SP	Sherwood Island State Park, Westport	C	•	•	•	•	•	••	
SP	Short Beach	C	•	•	•	•	•	••	
SP	Silver Beach to Cedar Beach	C	•	•	•	•	•	••	
SP	Southport Beach	C	•	•	•	•	•	••	
SP	Woodmont Beach, Milford	C	•	•	•	•	•	••	
SP	Sea Bluff Beach, West Haven	C	•	•	•••	•	•	••	
SP	Gulf Street	C	•	•	•••	•	•	•	
SP	Sandy Point Outfall, West Haven	C	•	•	•	•	•	•	
SP	Stamford Hurricane Barrier	C	•	•	•	•	•	•••	
			Geographic Area: Eastern Connecticut						
NV	Connecticut River Below Hartford - Saybrook Shoals (Entrance)	N							2
NV	Connecticut River Below Hartford - Lower Bars (Below Middletown)	N							2
SP	Guilford Point Beach(Jacobs Beach), Guilford		•	•	•	•	•	•••	
NV	Patchogue River	N							4
NV	Clinton Harbor	N							4
SP	Hammonasset Beach, Madison	C	•	•	•	•	•	•••	
SP	Lighthouse Point Park, Area 9	C	•	•	•	•	•	•••	
SP	Middle Beach	C	•	•	•	•	•	••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

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Phase

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Extent of Resources at Risk

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For complete definitions see page 7.

Click legend for more information.

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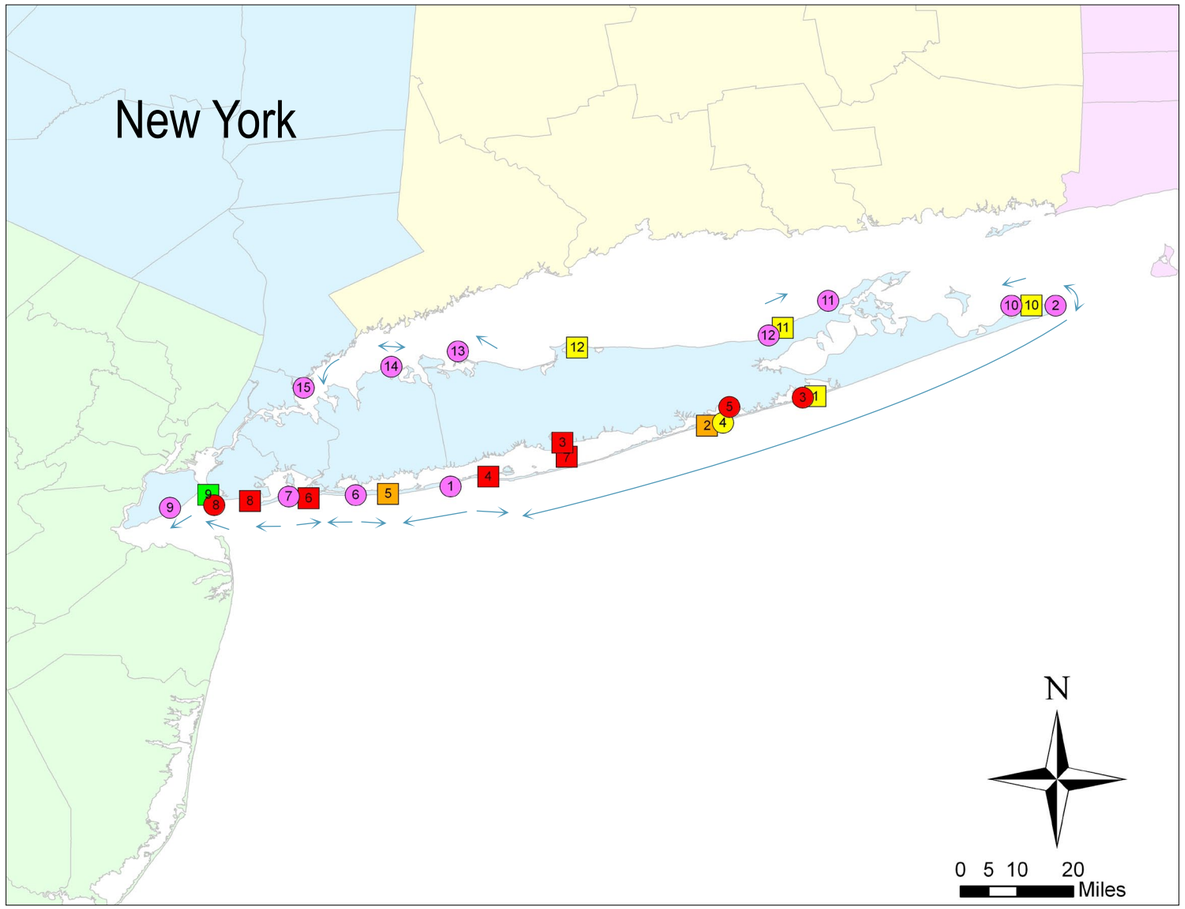
Connecticut

		Estimated Future Federal Costs					
		Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Project Name and Project Reliability	Phase	Geographic Area: Western Connecticut					
Burrial Hill Beach, Westport	C	$0	$0	$0	$0	$0	$0
Calf Pasture Beach Park, Norwalk	C	$0	$0	$0	$0	$0	$0
Compo Beach, Westport	C	$0	$0	$0	$0	$0	$0
Cove Island, Stamford	C	$0	$0	$0	$0	$0	$0
Cummings Park, Stamford	C	$0	$0	$0	$0	$0	$0
Gulf Beach, Milford	C	$0	$0	$0	$0	$0	$0
Jennings Beach, Fairfield	C	$0	$0	$0	$0	$0	$0
Prospect Beach, West Haven	C	$0	$0	$0	$0	$0	$0
Sasco Hill Beach, Fairfield	C	$0	$0	$0	$0	$0	$0
Seaside Park	C	$0	$0	$0	$0	$0	$0
Sherwood Island State Park, Westport	C	$0	$0	$0	$0	$0	$0
Short Beach	C	$0	$0	$0	$0	$0	$0
Silver Beach to Cedar Beach	C	$0	$0	$0	$0	$0	$0
Southport Beach	C	$0	$0	$0	$0	$0	$0
Woodmont Beach, Milford	C	$0	$0	$0	$0	$0	$0
Sea Bluff Beach, West Haven	C	$0	$0	$0	$0	$0	$0
Gulf Street	C	$0	$0	$0	$0	$0	$0
Sandy Point Outfall, West Haven	C	$0	$0	$0	$0	$0	$0
Stamford Hurricane Barrier	C	$0	$0	$0	$0	$0	$0
		Geographic Area: Eastern Connecticut					
Connecticut River Below Hartford - Saybrook Shoals (Entrance)	N	$0	$0	$0	$0	$0	$0
Connecticut River Below Hartford - Lower Bars (Below Middletown)	N	$0	$0	$0	$0	$0	$0
Guilford Point Beach(Jacobs Beach), Guilford		$0	$0	$0	$0	$0	$0
Patchogue River	N	$250,000	$0	$0	$250,000	$0	$0
Clinton Harbor	N	$1,400,000	$0	$1,400,000	$0	$0	$0
Hammonasset Beach, Madison	C	$0	$0	$0	$0	$0	$0
Lighthouse Point Park, Area 9	C	$0	$0	$0	$0	$0	$0
Middle Beach	C	$0	$0	$0	$0	$0	$0
Totals		$1,650,000	$0	$1,400,000	$250,000	$0	$0

CLICK TO TURN



New York

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: South Shore of Long Island and Staten Island
1	SP	Fire Island Inlet to Montauk Point Reformulation
2	SP	Montauk Point
1	NV	Shinnecock Inlet
3	SP	West of Shinnecock Inlet
4	SP	West Hampton
2	NV	Moriches Inlet
3	NV	Great South Bay
4 5	NV/SP	Fire Island Inlet to Shores Westerly
5	NV	Jones Inlet
6	SP	Atlantic Coast of Long Island: Jones Inlet to Rockaway Inlet - Long Beach Island, NY
6	NV	East Rockaway Inlet
7	SP	East Rockaway Inlet to Rockaway Inlet Reformulation
7	NV	Long Island Intercoastal
8	NV	Rockaway Inlet
8	SP	Coney Island
9	NV	Ambrose Channel
9	SP	South Shore of Staten Island
		Geographic Area: North Shore of Long Island
10	SP	Lake Montauk Harbor
10	NV	Lake Montauk Harbor
11	SP	Hashamomuck Cove
12	SP	Mattituck 111
11	NV	Mattituck Inlet
12	NV	Port Jefferson Harbor
13	SP	Asharoken
14	SP	Bayville
15	SP	Orchard Beach

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Westhampton (before)

Westhampton (after)

GO TO BACK
CLICK TO TURN
CLICK TO TURN

New York

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: South Shore of Long Island and Staten Island								
SP(1)	Fire Island Inlet to Montauk Point Reformulation	S	•••	••	•••	•••	•••	•••	
SP	Montauk Point	E	••	•	•	•		•••	
NV	Shinnecock Inlet	N							3
SP	West of Shinnecock Inlet	R	•••	•••	•••	•••	•	••	
SP	West Hampton	R	•••	•••	••		•••	••	
NV	Moriches Inlet	N							3
NV	Great South Bay	N							4
NV/SP(2)	Fire Island Inlet to Shores Westerly	N/R	•••	•••	•••	••	•••	•••	2
NV	Jones Inlet	N							4
SP	Atlantic Coast of Long Island: Jones Inlet to Rockaway Inlet - Long Beach Island, NY	E	•••	•••	•••	••	•••	•••	
NV	East Rockaway Inlet	N							2
SP	East Rockaway Inlet to Rockaway Inlet Reformulation	S	•••	••	••	••	•••	•••	
NV	Long Island Intercoastal	N							2
NV	Rockaway Inlet	N							3
SP(3)	Coney Island	R	•••		•••	••	•••	••	
NV	Ambrose Channel	N							1
SP	South Shore of Staten Island	S	•••	•••	•••	••	•	••	
	Geographic Area: North Shore of Long Island								
SP	Lake Montauk Harbor	S	•••	••	••	•	•••	••	
NV	Lake Montauk Harbor	N							3
SP	Hashamomuck Cove	S	••	••	••	••	•••	•	
SP(4)	Mattituck 111	S	••	••	•			•	
NV	Mattituck Inlet	N							3
NV	Port Jefferson Harbor	N							3
SP	Asharoken	S	••	•••	•••		•••	••	
SP	Bayville	S	•••	••	•••	••	•••	••	
SP	Orchard Beach	A	•	•	••		•	•••	

Project Type

SP = Shore Protection
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Project Reliability

Indicated by background colors:

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For complete definitions see page 7.

Click legend for more information.

Footnotes

(1) Fire Island Inlet to Montauk Point Reformulation: Project reliability was estimated based on average conditions for the 83-mile project length. Reliability may vary for shorter reaches.

(2) Fire Island Inlet to Shores Westerly: This project is navigation dredging of Fire Island Inlet with material placement on the down drift shore at Gilgo Beach.

(3) Coney Island: Project has been constructed and is in the renourishment phase. Following the completion of initial construction, it became apparent that downdrift impacts were greater than originally anticipated and modifications (t-groins) are being added accordingly.

(4) Mattituck 111: Zero funds will be needed in FY 2012 since carryover funds from FY 2011 will be available, at a level that will be enough to accomplish plans and specs and pre-construction coordination.

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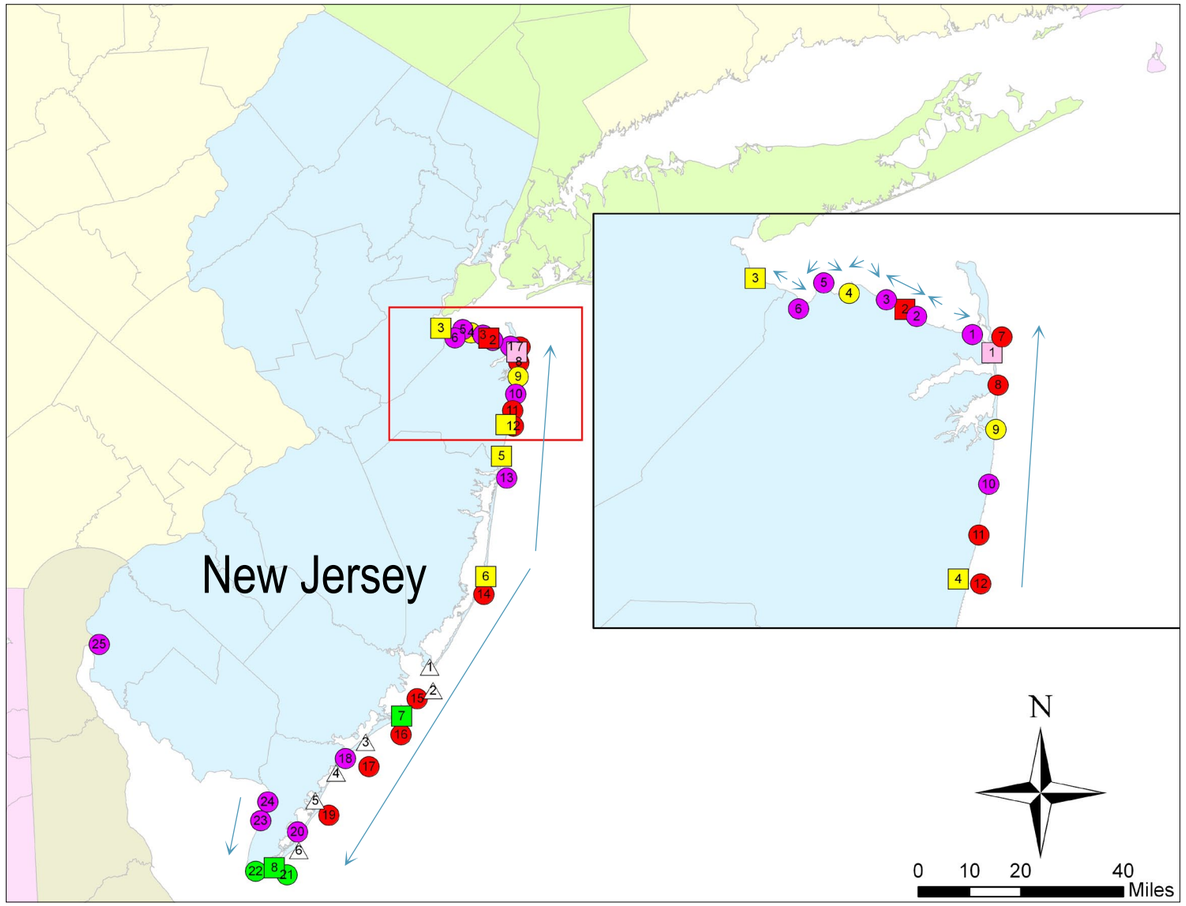
New York

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Geographic Area: South Shore of Long Island and Staten Island							
Fire Island Inlet to Montauk Point Reformulation	S	$4,250,000	$500,000	$750,000	$1,000,000	$1,000,000	$1,000,000
Montauk Point	E	$8,100,000	$8,000,000	$25,000	$25,000	$25,000	$25,000
Shinnecock Inlet	N	$11,700,000	$1,000,000	$150,000	$450,000	$10,000,000	$100,000
West of Shinnecock Inlet	R	$0	$0	$0	$0	$0	$0
West Hampton	R	$9,400,000	$8,000,000	$200,000	$200,000	$200,000	$800,000
Moriches Inlet	N	$8,240,000	$90,000	$450,000	$7,500,000	$100,000	$100,000
Great South Bay	N	$6,480,000	$300,000	$6,000,000	$60,000	$60,000	$60,000
Fire Island Inlet to Shores Westerly	N/R	$44,290,000	$100,000	$26,740,000	$100,000	$350,000	$17,000,000
Jones Inlet	N	$7,220,000	$120,000	$300,000	$6,500,000	$150,000	$150,000
Atlantic Coast of Long Island: Jones Inlet to Rockaway Inlet - Long Beach Island, NY	E	$71,000,000	$1,000,000	$20,000,000	$20,000,000	$20,000,000	$10,000,000
East Rockaway Inlet	N	$22,000,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000
East Rockaway Inlet to Rockaway Inlet Reformulation	S	$26,800,000	$1,000,000	$300,000	$500,000	$5,000,000	$20,000,000
Long Island Intercoastal	N	$3,400,000	$100,000	$100,000	$100,000	$100,000	$3,000,000
Rockaway Inlet	N	$21,500,000	$7,000,000	$250,000	$7,000,000	$250,000	$7,000,000
Coney Island	R	$6,800,000	$6,000,000	$200,000	$200,000	$200,000	$200,000
Ambrose Channel	N	$60,000	$0	$0	$60,000	$0	$0
South Shore of Staten Island	S	$62,500,000	$500,000	$2,000,000	$20,000,000	$20,000,000	$20,000,000
Geographic Area: North Shore of Long Island							
Lake Montauk Harbor	S	$8,400,000	$300,000	$1,000,000	$7,000,000	$50,000	$50,000
Lake Montauk Harbor	N	$1,200,000	$200,000	$700,000	$100,000	$100,000	$100,000
Hashamomuck Cove	S	$3,050,000	$675,000	$625,000	$625,000	$625,000	$500,000
Mattituck 111	S	$2,000,000	$0	$1,900,000	$50,000	$25,000	$25,000
Mattituck Inlet	N	$1,720,000	$240,000	$1,300,000	$60,000	$60,000	$60,000
Port Jefferson Harbor	N	$40,000	$0	$0	$40,000	$0	$0
Asharoken	S	$550,000	$50,000	$200,000	$100,000	$100,000	$100,000
Bayville	S	$425,000	$25,000	$100,000	$100,000	$100,000	$100,000
Orchard Beach	A	$250,000	$50,000	$50,000	$50,000	$50,000	$50,000
Totals		$331,375,000	$39,650,000	$67,740,000	$76,220,000	$62,945,000	$84,820,000

Opportunities for Action

1. Once the **Atlantic Coast of Long Island: Jones Inlet to Rockaway Inlet - Long Beach Island, NY (Point Lookout)** project is constructed; maintenance of the adjacent **Jones Inlet** navigation channel could be changed to a five-year cycle. This change would match inlet maintenance with the storm damage reduction project's anticipated five-year renourishment cycle, and allow use of compatible, channel-dredged material for project renourishment.
2. Purchase of a small hydraulic dredge by the Town of Hempstead may provide opportunities to reduce renourishment needs at Long Beach - Pt. Lookout.
3. Material removed from **Fire Island Inlet** should continue to be placed on adjacent beaches.
4. Based on future project schedules, it may be advantageous to pair the **Atlantic Coast of Long Island: Jones Inlet to Rockaway Inlet – Long Beach Island, NY** project with the **Fire Island Inlet to Shores Westerly** project, and with the renourishment of **Coney Island**, to save $2 million to $3 million on mobilization/demobilization costs.
5. Depending on need, the maintenance of **Moriches Inlet** and **Shinnecock Inlet** navigation channels could be paired to save $2 million to $3 million in mobilization/demobilization costs.
6. The National Park Service's Gateway National Recreation Area, Great Kills Unit and the **South Shore of Staten Island** project will have great connectivity with this area following sand placement. Littoral material, which will be transported into the National Recreation Area from the project shoreline, is expected to reduce erosion problems there.
7. During the **South Shore of Staten Island** project construction, compatible material from the maintenance of **Ambrose Channel** could potentially be used as project beach fill.
8. The projects at **Lake Montauk Harbor** will connect channel dredging with downdrift shore protection.
9. Dredging of **Mattituck Section 111** could be combined with the **Mattituck Inlet** navigation project to reduce mobilization/demobilization costs. Funding would need to be received as specified in the estimated future federal costs table.



New Jersey

PROJECT LEGEND

Key	Type	Project Name
Geographic Area: Northern/Central New Jersey, Raritan and Sandy Hook Bays (New York District)		
1	NV	Shrewsbury River
1	SP	Highlands
2	SP	Leonardo
2	NV	Shoal Harbor and Compton Creek
3	SP	Port Monmouth
4	SP	Keansburg 506
5	SP	Union Beach
6	SP	Keyport
3	NV	Cheesequake Creek
Geographic Area: Atlantic Coast of Central New Jersey (New York District)		
7	SP	Sea Bright - Manasquan: Sea Bright
8	SP	Sea Bright - Manasquan: Monmouth Beach
9	SP	Sea Bright - Manasquan: Long Branch
10	SP	Sea Bright - Manasquan: Deal
11	SP	Sea Bright - Manasquan: Asbury to Avon
4	NV	Shark River Inlet
12	SP	Sea Bright - Manasquan: Belmar to Manasquan
Geographic Area: Atlantic Coast of Southern New Jersey (Philadelphia District)		
S	ER	NJ Intracoastal Waterway Ecosystem Restoration
S	SP	NJ Alternative Long-term Nourishment Study
5	NV	Manasquan Inlet
13	SP	Manasquan Inlet - Barnegat Inlet
6	NV	Barnegat Inlet
14	SP	Barnegat Inlet - Little Egg Inlet (LBI)
1		Little Egg Inlet
2		Brigantine Inlet
15	SP	Brigantine Island
7	NV	Absecon Inlet
16	SP	Absecon Island
3		Great Egg Harbor Inlet
17	SP	Ocean City (Great Egg Harbor Inlet & Peck Beach)
4		Corson Inlet
18	SP	Great Egg Harbor Inlet - Townsends Inlet
5		Townsends Inlet
19	SP	Townsends Inlet - Cape May Inlet
6		Hereford Inlet
20	SP	Hereford Inlet - Cape May Inlet
8	NV	Cape May Inlet
21	SP	Cape May City (Cape May Inlet to Lower Township)
22	SP	Lower Cape May Meadows - Cape May Point
Geographic Area: Delaware Bay Coast of Southern New Jersey (Philadelphia District)		
23	SP	Delaware Bay Coastline, DE & NJ: Villas and Vicinity
24	SP	Delaware Bay Coastline, DE & NJ: Reeds Beach to Pierces Point
25	SP	Delaware Bay Coastline, DE & NJ: Oakwood Beach

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Cape May Point (before)

Cape May Point (after)

New Jersey

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Northern/Central New Jersey, Raritan and Sandy Hook Bays (New York District)								
NV[1]	Shrewsbury River	N							3
SP	Highlands	S	•••	•	•	x	•	•	
SP	Leonardo	S	••	•	•	•	•	••	
NV[1]	Shoal Harbor and Compton Creek	N							3
SP	Port Monmouth	P	•••	•••	••	•	••	•••	
SP	Keansburg 506	R	••	•	•	•	•	••	
SP	Union Beach	E	•••	••	••	•	•	•	
SP	Keyport	S	••	•	•	•	•	•	
NV	Cheesequake Creek	N							5
	Geographic Area: Atlantic Coast of Central New Jersey (New York District)								
SP	Sea Bright - Manasquan: Sea Bright	R	•••	•••	•••	••	•••	•••	
SP	Sea Bright - Manasquan: Monmouth Beach	R	•••	•••	•••	••	•••	•••	
SP	Sea Bright - Manasquan: Long Branch	R	•••	••	•••	••	••	•••	
SP	Sea Bright - Manasquan: Deal	E	•••	••	••	••	••	•••	
SP	Sea Bright - Manasquan: Asbury to Avon	C	•••	••	••	••	•	•••	
NV	Shark River Inlet	N							2
SP	Sea Bright - Manasquan: Belmar to Manasquan	C	•••	••	••	••	•	•••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:
Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection Navigation

••• = Significant
•• = Moderate
• = Minimal
x = None

1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Footnotes

(1) Shrewsbury River and Shoal Harbor and Compton Creek: Estimated future federal costs shown for Shrewsbury River and Shoal Harbor and Compton Creek reflect sand and silt removal as the channel condition assessment depends on locatons of both.

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New Jersey

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Geographic Area: Northern/Central New Jersey, Raritan and Sandy Hook Bays (New York District)							
Shrewsbury River	N	$10,600,000	$300,000	$10,000,000	$100,000	$100,000	$100,000
Highlands	S	$25,000,000	$500,000	$500,000	$8,000,000	$8,000,000	$8,000,000
Leonardo	S	$2,000,000	$1,500,000	$500,000	$0	$0	$0
Shoal Harbor and Compton Creek	N	$4,920,000	$220,000	$4,400,000	$100,000	$100,000	$100,000
Port Monmouth	P	$42,000,000	$8,000,000	$10,000,000	$8,000,000	$8,000,000	$8,000,000
Keansburg 506	R	$23,600,000	$550,000	$21,400,000	$550,000	$550,000	$550,000
Union Beach	E	$96,000,000	$1,000,000	$20,000,000	$25,000,000	$25,000,000	$25,000,000
Keyport	S	$0	$0	$0	$0	$0	$0
Cheesequake Creek	N	$1,140,000	$0	$0	$200,000	$900,000	$40,000
Geographic Area: Atlantic Coast of Central New Jersey (New York District)							
Sea Bright - Manasquan: Sea Bright	R	$10,000,000	$0	$0	$0	$0	$10,000,000
Sea Bright - Manasquan: Monmouth Beach	R	$20,000,000	$10,000,000	$0	$10,000,000	$0	$0
Sea Bright - Manasquan: Long Branch	R	$30,000,000	$10,000,000	$0	$10,000,000	$0	$10,000,000
Sea Bright - Manasquan: Deal	E	$0	$0	$0	$0	$0	$0
Sea Bright - Manasquan: Asbury to Avon	C	$20,000,000	$0	$10,000,000	$0	$10,000,000	$0
Shark River Inlet	N	$2,950,000	$500,000	$600,000	$600,000	$600,000	$650,000
Sea Bright - Manasquan: Belmar to Manasquan	C	$20,000,000	$0	$10,000,000	$0	$10,000,000	$0
Totals (New York District)		$308,210,000	$32,570,000	$87,400,000	$62,550,000	$63,250,000	$62,440,000

Opportunities for Action

1. Sand dredged from Manasquan Inlet for operations and maintenance is currently discharged north of the inlet along the **Sea Bright – Manasquan** project accomplishing sand bypassing.
2. All projects in the Atlantic Coast of Central New Jersey geographic area are interconnected via sediment flow. Estimated quantities for renourishment were based on construction of the entire 21-mile project length, and the prevailing littoral transport to the north. Lack of renourishment in the southerly project sections may have long-term impacts on the reliability of the total **Sea Bright – Manasquan** project.
3. Although not shown in the table, projects in the Atlantic Coast of Central New Jersey geographic area have great connectivity with the National Park Service's Gateway National Recreation Area, Sandy Hook Unit. For the last 17 years – since project construction was initiated between Sea Bright and Manasquan – littoral material has been transported into this National Recreation Area, where erosion has been dramatically reduced.
4. Nearshore placement of dredged material at **Shark River Inlet** should be continued for future operations to reduce renourishment needs in the Asbury to Avon reach of the **Sea Bright to Manasquan** Project.
5. Raritan Bay beach nourishment projects can utilize sand from the borrow area designated for the **Sea Bright to Manasquan** project off of Sandy Hook, eliminating costs for developing new borrow areas within Raritan Bay.
6. The potential exists to combine renourishment cycles for two projects, **Cape May Inlet to Lower Township** and **Lower Cape May Meadows**, and save approximately $1 million on mobilization/demobilization costs. Also, material removed from **Cape May Inlet** for operations and maintenance (approximately 100,000 cubic yards annually) could be placed immediately adjacent to the inlet on the **Cape May City to Lower Township** project.
7. **Absecon Island, Ocean City** and **Townsends Inlet to Cape May Inlet** shore protection projects all need renourishment and could be combined to save on mobilization/demobilization costs and contracting expenses. Borrow areas for each project are within the inlet located north of the respective project.
8. Material dredged from **Barnegat Inlet** for operations and maintenance could be placed on the **Barnegat Inlet – Little Egg Inlet (LBI)** shore protection project (approximately 200,000 to 300,000 cubic yards annually by hopper dredge and 3 miles away from the inlet; thus, cost-effectiveness would have to be considered).
9. Sand backpassing could be implemented at several of the southern barrier island projects in NJ **(Seven Mile Island, Absecon Island, Ocean City, etc.)** The procedure would involve transport of sand from the middle of each project to the northeast end where each project has experienced accelerated "hot spot" erosion that reduces the existing beachfill template below the authorized protection template. One benefit would be to assure the provision of the level of protection for which each project was authorized. This option also has the potential to reduce project life-cycle costs by eliminating one or more "conventional" nourishment contracts using ocean-going dredges with their associated higher mob/demob costs compared to backpassing from the beach.

CLICK TO TURN

CLICK TO TURN

New Jersey

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Atlantic Coast of Southern New Jersey (Philadelphia District)								
ER	NJ Intracoastal Waterway Ecosystem Restoration	S	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SP	NJ Alternative Long-term Nourishment Study	S	N/A	N/A	N/A	N/A	N/A	N/A	N/A
NV	Manasquan Inlet	N							4
SP	Manasquan Inlet - Barnegat Inlet	A	•••	••	••	•••	•	•••	
NV	Barnegat Inlet	N							3
SP	Barnegat Inlet - Little Egg Inlet (LBI)	P	•••	••	••	••	•	•••	
NV	Little Egg Inlet								
NV	Brigantine Inlet								
SP	Brigantine Island	C	•••	••	••	••	•	•••	
NV	Absecon Inlet	N							3
SP	Absecon Island	C	•••	•	•••	•••	•	•••	
NV	Great Egg Harbor Inlet								
SP	Ocean City (Great Egg Harbor Inlet & Peck Beach)	R	•••	••	•••	••	•	•••	
NV	Corson Inlet								
SP	Great Egg Harbor Inlet - Townsends Inlet	A	•••	••	••	•	•••	•••	
NV	Townsends Inlet								
SP	Townsends Inlet - Cape May Inlet	C	•••	••	••	•	•	•••	
NV	Hereford Inlet								
SP	Hereford Inlet - Cape May Inlet	S	•••	••	•••	•	•	•••	
NV	Cape May Inlet	N							4
SP	Cape May City (Cape May Inlet to Lower Township)	R	•••	••	•••	•••	•	•••	
SP	Lower Cape May Meadows - Cape May Point	C	••	•••	•	••	•	•	
	Geographic Area: Delaware Bay Coast of Southern New Jersey (Philadelphia District)								
SP	Delaware Bay Coastline, Villas and Vicinity	P	••	•••	••	•	•	••	
SP	Delaware Bay Coastline, Reeds Beach to Pierces Point	P	••	•••	••	•	•	•	
SP	Delaware Bay Coastline, Oakwood Beach	A	•••	••	•••	•	•	•	

Project Type

SP = Shore Protection
NV = Navigation
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Project Reliability

Indicated by background colors:

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Yellow = Intermediate (SP), Moderate (NV)
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Pink = Failing (NV)
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A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
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•• = Moderate
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x = None

Navigation
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3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
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5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Footnotes

(1) Totals represents the total estimated future federal costs for the entire state of New Jersey (New York and Philadelphia Districts combined).

Click legend for more information.

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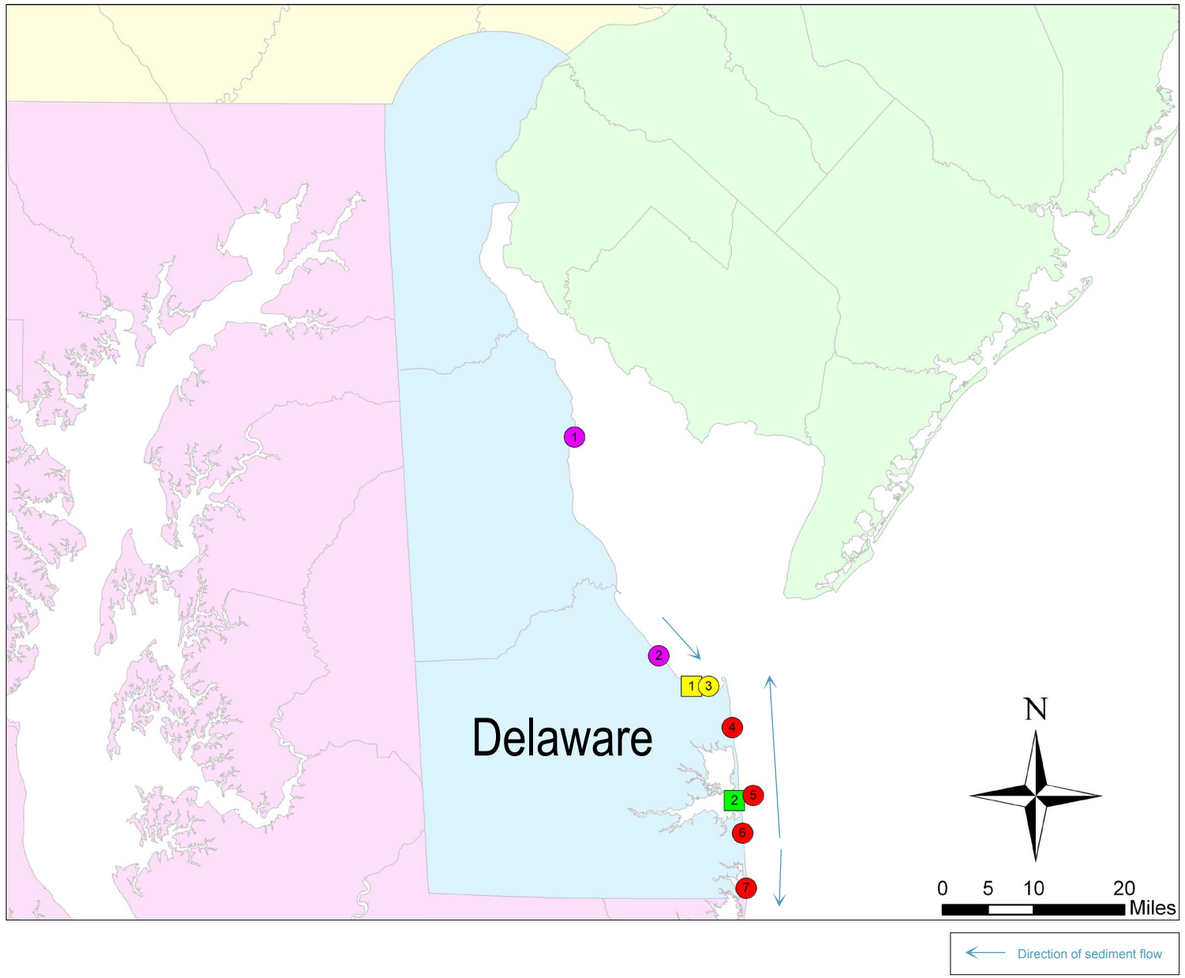
New Jersey

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Geographic Area: Atlantic Coast of Southern New Jersey (Philadelphia District)							
NJ Intracoastal Waterway Ecosystem Restoration	S	$0	$0	$0	$0	$0	$0
NJ Alternative Long-term Nourishment Study	S	$1,309,000	$100,000	$309,000	$100,000	$300,000	$500,000
Manasquan Inlet	N	$2,855,000	$555,000	$560,000	$570,000	$590,000	$590,000
Manasquan Inlet - Barnegat Inlet	A	$47,305,000	$1,000,000	$20,000,000	$20,000,000	$3,305,000	$3,000,000
Barnegat Inlet	N	$8,600,000	$700,000	$1,100,000	$1,400,000	$4,000,000	$1,400,000
Barnegat Inlet - Little Egg Inlet (LBI)	P	$3,000,000	$600,000	$600,000	$600,000	$600,000	$600,000
Little Egg Inlet							
Brigantine Inlet							
Brigantine Island	C	$891,000	$80,000	$80,000	$80,000	$80,000	$571,000
Absecon Inlet	N	$2,460,000	$400,000	$500,000	$510,000	$520,000	$530,000
Absecon Island	C	$10,963,000	$400,000	$400,000	$9,363,000	$400,000	$400,000
Great Egg Harbor Inlet							
Ocean City (Great Egg Harbor Inlet & Peck Beach)	R	$16,708,000	$1,218,000	$1,272,000	$11,435,000	$1,330,000	$1,453,000
Corson Inlet							
Great Egg Harbor Inlet - Townsends Inlet	A	$21,810,000	$4,941,000	$332,000	$332,000	$4,941,000	$11,264,000
Townsends Inlet							
Townsends Inlet - Cape May Inlet	C	$7,427,000	$300,000	$300,000	$6,227,000	$300,000	$300,000
Hereford Inlet							
Hereford Inlet - Cape May Inlet	S	$1,475,000	$200,000	$200,000	$250,000	$450,000	$375,000
Cape May Inlet	N	$5,900,000	$890,000	$900,000	$2,260,000	$920,000	$930,000
Cape May City (Cape May Inlet to Lower Township)	R	$5,500,000	$200,000	$2,400,000	$200,000	$2,500,000	$200,000
Lower Cape May Meadows - Cape May Point	C	$6,385,000	$217,000	$217,000	$226,000	$5,478,000	$247,000
Geographic Area: Delaware Bay Coast of Southern New Jersey (Philadelphia District)							
Delaware Bay Coastline, Villas and Vicinity	P	$488,000	$360,000	$32,000	$32,000	$32,000	$32,000
Delaware Bay Coastline, Reeds Beach to Pierces Point	P	$927,000	$185,000	$185,000	$185,000	$185,000	$187,000
Delaware Bay Coastline, Oakwood Beach	A	$57,000	$11,000	$11,000	$11,000	$12,000	$12,000
Totals (Philadelphia District)		$144,060,000	$12,357,000	$29,398,000	$53,781,000	$25,933,000	$22,591,000
Totals [1]		$452,270,000	$44,927,000	$116,798,000	$116,331,000	$89,183,000	$85,031,000

CLICK TO TURN



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Delaware

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: Delaware Bay Coast of Delaware
1	SP	Delaware Bay Coastline, Port Mahon
2	SP	Delaware Bay Coastline, Broadkill Beach
1	NV	Roosevelt Inlet
3	SP	Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach
		Geographic Area: Atlantic Coast of Delaware
4	SP	Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach - Dewey Beach
2	NV	Indian River Inlet
5	SP	Delaware Coast Protection, Indian River Inlet Sand Bypassing
6	SP	Delaware Coast, Cape Henlopen to Fenwick Island: Bethany - South Bethany
7	SP	Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island

Shore Protection Projects Project Reliability

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- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
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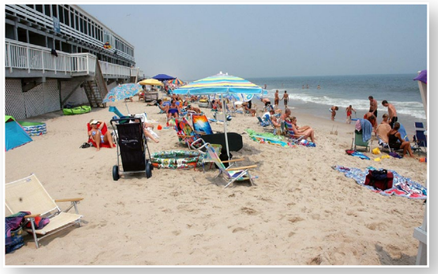
S = STATEWIDE PROJECT



Dewey Beach (before)

Dewey Beach (after)

CLICK TO TURN
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Delaware

Project Type	Project Name and Project Reliability	Phase	Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Extent of Resources at Risk								
	Geographic Area: Delaware Bay Coast of Delaware								
SP	Delaware Bay Coastline, Port Mahon	P	•	•••	•••	•	•••	•	
SP	Delaware Bay Coastline, Broadkill Beach	A	••	••	••	•	•	••	
NV	Roosevelt Inlet	N							4
SP	Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach	A	••	••	•	•	•	••	
	Geographic Area: Atlantic Coast of Delaware								
SP	Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach-Dewey Beach	C	•••	•	••	••	•	•••	
NV	Indian River Inlet	N							5
SP	Delaware Coast Protection, Indian River Inlet Sand Bypassing	R	••	••	•••	•	••	•••	
SP	Delaware Coast, Cape Henlopen to Fenwick Island: Bethany - South Bethany	P	•••	•	•••	••	•	•••	
SP	Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island	C	•••	••	••	•	•	•••	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

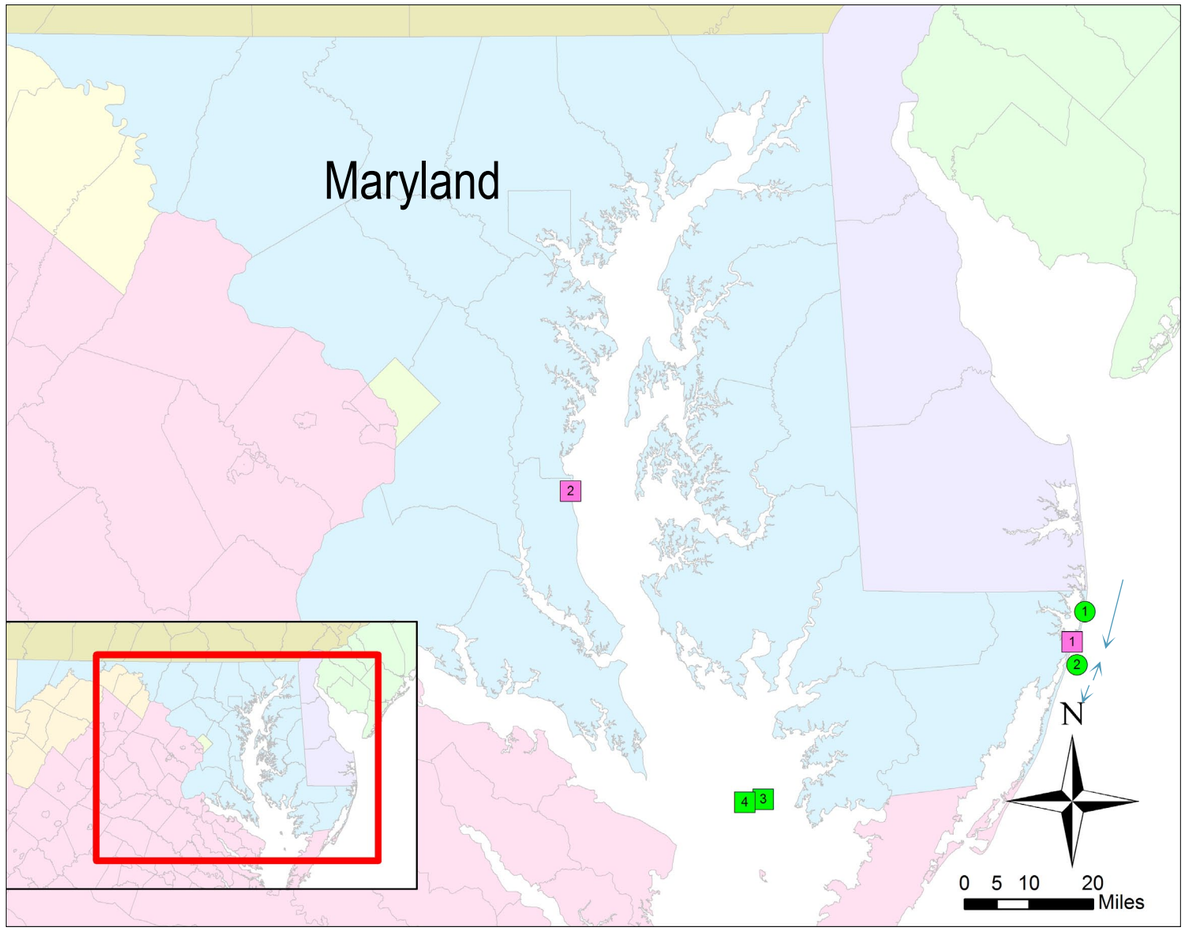
For complete definitions see page 7.

Delaware

Project Name and Project Reliability	Phase	Total (FY 2012 - FY 2015)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
		Estimated Future Federal Costs					
		Geographic Area: Delaware Bay Coast of Delaware					
Delaware Bay Coastline, Port Mahon	P	$250,000	$50,000	$50,000	$50,000	$50,000	$50,000
Delaware Bay Coastline, Broadkill Beach	A	$4,436,000	$100,000	$100,000	$100,000	$730,000	$3,406,000
Roosevelt Inlet	N	$1,402,000	$630,000	$30,000	$32,000	$675,000	$35,000
Delaware Bay Coastline, Roosevelt Inlet - Lewes Beach	A	$1,552,000	$1,404,000	$36,000	$37,000	$37,000	$38,000
		Geographic Area: Atlantic Coast of Delaware					
Delaware Coast, Cape Henlopen to Fenwick Island: Rehoboth Beach-Dewey Beach	C	$3,281,000	$150,000	$150,000	$2,681,000	$150,000	$150,000
Indian River Inlet	N	$3,900,000	$100,000	$100,000	$100,000	$3,500,000	$100,000
Delaware Coast Protection, Indian River Inlet Sand Bypassing	R	$1,950,000	$390,000	$390,000	$390,000	$390,000	$390,000
Delaware Coast, Cape Henlopen to Fenwick Island: Bethany - South Bethany	P	$5,043,000	$150,000	$150,000	$4,443,000	$150,000	$150,000
Delaware Coast, Cape Henlopen to Fenwick Island: Fenwick Island	C	$3,514,000	$100,000	$100,000	$586,000	$2,628,000	$100,000
Totals		$25,328,000	$3,074,000	$1,106,000	$8,419,000	$8,310,000	$4,419,000

Opportunities for Action

1. Some renourishment cycles for the **Cape Henlopen to Fenwick Island (Fenwick Island)** project could be combined with those for the adjacent Ocean City, Md., shore protection project (Baltimore District Corps of Engineers).
2. Within the state of Delaware, exclusive of Ocean City, MD, it would be possible to align the periodic nourishment of three projects – **(1) Rehoboth Beach-Dewey Beach, (2) Bethany/South Bethany, and (3) Fenwick Island** – so as to reduce the total number of beach nourishment contracts. Combining nourishment contracts.



Direction of sediment flow

Maryland

PROJECT LEGEND

Key	Type	Project Name
Geographic Area: Atlantic Coast		
1	SP	Atlantic Coast (Ocean City)
1	NV	Ocean City Harbor & Inlet & Sinepuxent Bay
2	SP/ER	Assateague
Geographic Area: Mid Chesapeake Bay		
2	NV	Fishing Creek
Geographic Area: Lower Chesapeake Bay		
3	NV	Twitch Cove and Big Thorofare
4	NV	Rhodes Point to Tylerton

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

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S = STATEWIDE PROJECT

Atlantic Coast (before)

Atlantic Coast (after)

Table Of Contents

CLICK TO TURN

Maryland

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Atlantic Coast								
SP	Atlantic Coast (Ocean City)	R	•••	•	•••	••	•	•••	
NV	Ocean City Harbor & Inlet & Sinepuxent Bay	N							4
SP/ER	Assateague	R	•	•••	•	•	•	••	
	Geographic Area: Mid Chesapeake Bay								
NV	Fishing Creek	N							4
	Geographic Area: Lower Chesapeake Bay								
NV	Twitch Cove and Big Thorofare	N							3
NV	Rhodes Point to Tylerton	N							3

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

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For complete definitions see page 7.

Click legend for more information.

CLICK TO TURN

Maryland

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
		Geographic Area: Atlantic Coast					
Atlantic Coast (Ocean City)	R	$7,787,000	$284,000	$296,000	$307,000	$6,597,000	$333,000
Ocean City Harbor & Inlet & Sinepuxent Bay	N	$250,000	$0	$50,000	$100,000	$0	$100,000
Assateague	R	$5,805,000	$1,071,000	$1,115,000	$1,159,000	$1,206,000	$1,254,000
		Geographic Area: Mid Chesapeake Bay					
Fishing Creek	N	$1,000,000	$1,000,000	$0	$0	$0	$0
		Geographic Area: Lower Chesapeake Bay					
Twitch Cove and Big Thorofare	N	$2,600,000	$0	$0	$0	$0	$2,600,000
Rhodes Point to Tylerton	N	$0	$0	$0	$0	$0	$0
Totals		$17,442,000	$2,355,000	$1,461,000	$1,566,000	$7,773,000	$4,287,000

Note: Assateague future costs shown as Congress appropriates under Construction General (CG) which is cost shared at 53% Federal. Presidents Budget under O&M is 100% Federal, almost twice CG amounts shown.

Opportunities for Action

1. The Federal navigation channels in the Ocean City, MD area accumulate sands that are beneficially placed on **Ocean City or Assateague Island**; placement at these sites is cost-competitive with other potential disposal sites. Material dredged from **Ocean City Harbor** is disposed of at an upland site because of perception that it possesses unacceptable contaminants. However, chemical testing has found that the harbor material can probably be beneficially used for aquatic habitat restoration in the coastal bays, and the material may be used for this purpose at some time in the future.
2. In 2002-2003, sand from Isle of Wight Channel was used to restore salt marsh at Isle of Wight Wildlife Management Area. Restoring the salt marsh at Isle of Wight cost more than placing the sand at **Ocean City or Assateague Island**, and the difference was paid for by the Isle of Wight Project.
3. Where acceptable from environmental and cost perspectives, material dredged from shallow draft navigation projects in Chesapeake Bay is beneficially placed to create and restore habitat. In some cases, these projects have also protected infrastructure and cultural resources.

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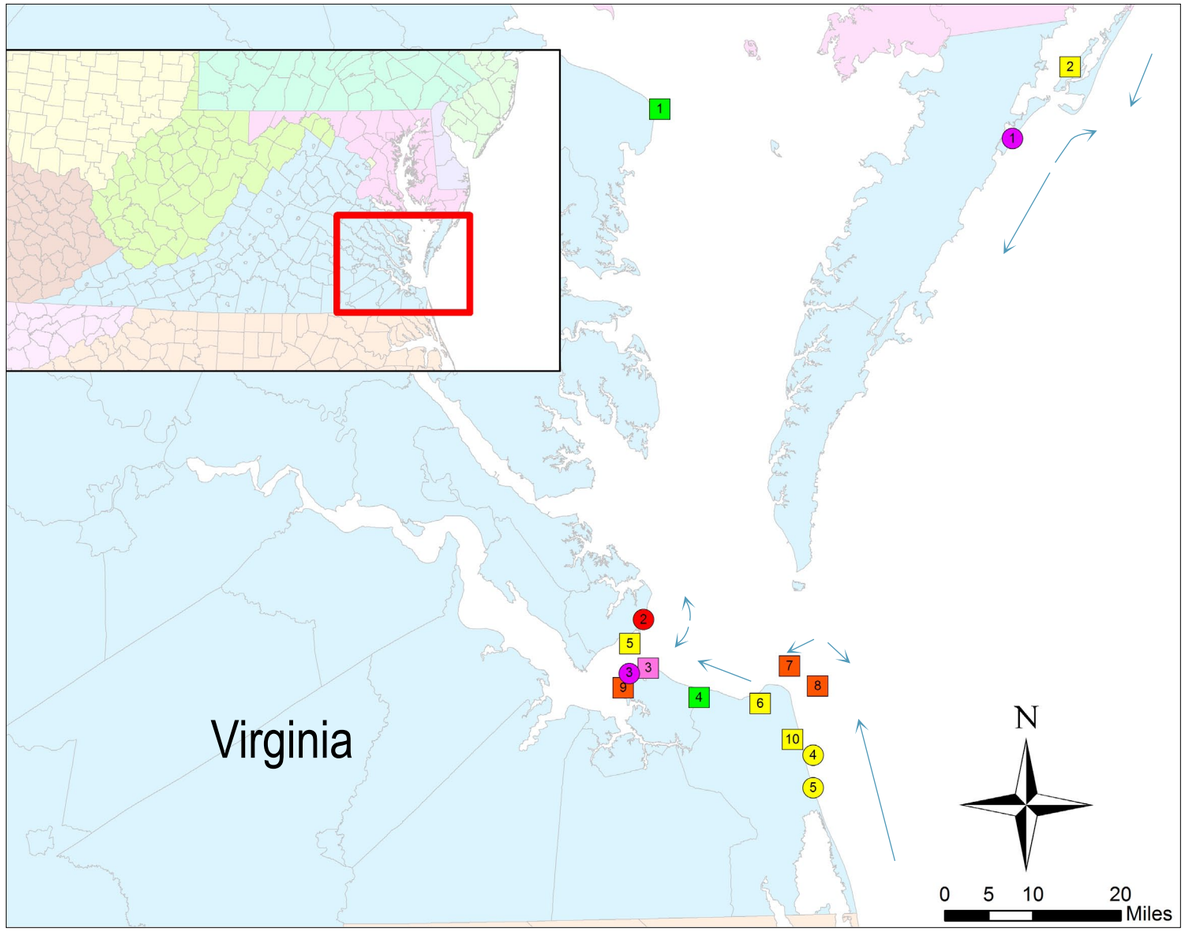

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Virginia

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: Wallops Island to Assawoman
1	NV	Little Wicomico River
1	SP	Wallops Island
2	NV	Chincoteague Inlet
		Geographic Area: Factory Point to Old Point Comfort
2	SP	Chesapeake Bay Shoreline, Hampton
		Geographic Area: Willoughby Spit to North Carolina Border
3	NV	Willoughby Channel
3	SP	Willoughby Spit and Vicinity, Norfolk
4	NV	Little Creek Inlet
5	NV	Thimble Shoals Channel
6	NV	Lynnhaven Inlet
7	NV	Cape Henry Channel
8	NV	Norfolk Harbor - Atlantic Channel
9	NV	Norfolk Harbor - Norfolk Harbor Channel
4	SP	Virginia Beach Hurricane Protection
10	NV	Rudee Inlet
5	SP	Sandbridge Beach

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
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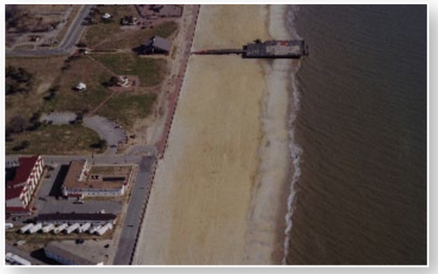
Chesapeake Bay Shoreline (before)



Chesapeake Bay Shoreline (after)

CLICK TO TURN

Virginia

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Wallops Island to Assawoman								
NV(1)	Little Wicomico River	N							4
SP(2)	Wallops Island	S	•••	x	•••	••	•	x	
NV	Chincoteague Inlet	N							1
	Geographic Area: Factory Point to Old Point Comfort								
SP(3)	Chesapeake Bay Shoreline, Hampton	R	••	x	••	x	••	•	
	Geographic Area: Willoughby Spit to North Carolina Border								
NV	Willoughby Channel	N							4
SP	Willoughby Spit and Vicinity, Norfolk	E	•••	••	•••	x	••	•••	
NV	Little Creek Inlet	N							2
NV	Thimble Shoals Channel	N							1
NV	Lynnhaven Inlet	N							3
NV(4)	Cape Henry Channel	N							1
NV	Norfolk Harbor - Atlantic Channel	N							1
NV	Norfolk Harbor - Norfolk Harbor Channel	N							1
SP(5)	Virginia Beach Hurricane Protection	C	•••	••	••	x	••	••	
NV	Rudee Inlet	N							3
SP	Sandbridge Beach	R	•••	•	•••	•	••	•••	

Project Type

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Project Reliability

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Extent of Resources at Risk

Shore Protection Navigation

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5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.
For complete definitions see page 7.

Footnotes

(1) Little Wicomico River: The project includes channel and structure maintenance.

(2) Wallops Island: Project will be constructed under the International and Interagency Support (IIS) program.

(3) Chesapeake Bay Shoreline, Hampton: Poor reliability rating due to November 2009 Nor'easter; beach will be restored to its pre-storm condition using emergency (FCCE) funds.

(4) Cape Henry Channel: Project was constructed and is maintained by NAO, but is part of the Baltimore Harbor Project at NAB.

(5) Virginia Beach Hurricane Protection: Initial Construction of the beach was completed in May 2002.

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Virginia

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Geographic Area: Wallops Island to Assawoman							
Little Wicomico River	N	$0	$0	$0	$0	$0	$0
Wallops Island	S	$33,000,000	$13,000,000	$17,000,000	$0	$0	$3,000,000
Chincoteague Inlet	N	$7,076,000	$1,333,000	$1,373,000	$1,414,000	$1,456,000	$1,500,000
Geographic Area: Factory Point to Old Point Comfort							
Chesapeake Bay Shoreline, Hampton	R	$499,000	$499,000	$0	$0	$0	$0
Geographic Area: Willoughby Spit to North Carolina Border							
Willoughby Channel	N	$0	$0	$0	$0	$0	$0
Willoughby Spit and Vicinity, Norfolk	E	$20,159,000	$159,000	$0	$10,000,000	$5,000,000	$5,000,000
Little Creek Inlet	N	$0	$0	$0	$0	$0	$0
Thimble Shoals Channel	N	$7,650,000	$200,000	$3,000,000	$200,000	$4,000,000	$250,000
Lynnhaven Inlet	N	$6,690,000	$520,000	$2,520,000	$550,000	$2,550,000	$550,000
Cape Henry Channel	N	$14,200,000	$200,000	$250,000	$9,000,000	$250,000	$4,500,000
Norfolk Harbor - Atlantic Channel	N	$4,800,000	$2,000,000	$200,000	$250,000	$2,100,000	$250,000
Norfolk Harbor - Norfolk Harbor Channel	N	$26,650,000	$5,000,000	$5,150,000	$5,300,000	$5,500,000	$5,700,000
Virginia Beach Hurricane Protection	C	$8,900,000	$200,000	$8,700,000	$0	$0	$0
Rudee Inlet	N	$9,500,000	$500,000	$3,750,000	$750,000	$3,750,000	$750,000
Sandbridge Beach	R	$9,000,000	$300,000	$8,700,000	$0	$0	$0
Totals		$148,124,000	$23,911,000	$50,643,000	$27,464,000	$24,606,000	$21,500,000

Opportunities for Action

1. Sand from the **Chincoteague Inlet** is currently permitted for and over 90,000 cubic yards and was placed on the **Wallops Island** project site in 2002. However, the dredged sediment from the **Chincoteague Inlet** was mostly fines which did not remain on the beach after placement long because the material was rapidly carried from the site and dispersed. The after action decision on the effectiveness of the 2002 action was minimal and any future such actions would not be worth the cost.
2. Sand material from the **Little Creek Inlet**, currently maintained by the Navy, is deposited on the beach at Little Creek Amphibious Base. Jetties at this inlet provide substrate for benthic habitat, but also block the transport of material to some of the surrounding beaches. In the past, the Navy has occasionally placed dredged material on both sides of the inlet in an attempt to offset this problem. Therefore, there continue to be opportunities for some material from the inlet is to be placed 1 mile east and 1 mile west of the jetties to offset the impact of these jetties.
3. Maintenance material from the **Thimble Shoals Channel** has previously been placed on East Ocean View (part of the current Willoughby Spit and Vicinity Study area) as well as beaches on the Chesapeake Bay in the City of Virginia Beach. When dredging of this channel ultimately reaches the authorized depth of 55 feet, there will be several million cubic yards of material available for use on various beaches in the vicinity of the channel. A beneficial use evaluation will have to be conducted to determine where to place this sand.
4. Material from **Lynnhaven Inlet** is placed on the beach at the Ocean Park site in the City of Virginia Beach every three years. A secondary purpose of the maintenance of the **Lynnhaven Inlet** is to increase tidal flow for successful propagation of shellfish. In addition, a site adjacent to the **Lynnhaven Inlet**, previously used for disposal of material from this inlet, has developed into a natural area. While this was not intended as an ecosystem restoration project, this area is now used by numerous visitors for recreation activities such as bird watching.
5. The **Cape Henry Channel**, currently maintained by Norfolk District for Baltimore District, provides material for shore protection to a portion of beach on the Chesapeake Bay for the City of Virginia Beach. Some dredge material from the **Cape Henry Channel** and other lower Bay areas in Virginia waters has been used beneficially. Dredged material from the lower Bay areas tends to be sandier. Norfolk District has used these materials on some CSDR projects near the mouth of the Bay.
6. Beach quality sand removed from the Atlantic Ocean Channel will continue to be placed on the Virginia Beach Hurricane Protection Project in Virginia Beach. This channel is authorized to 55 feet, and when dredging to this depth is ultimately realized, this channel will have approximately 80 million cubic yards of sand available to be placed on the Virginia Beach Hurricane Protection Project. The **Sandbridge Beach** project has its own borrow area 3-5 miles offshore.
7. Approximately 200,000 cubic yards of material, from **Rudee Inlet**, is the net drift of material deposited into a weir sand trap system which is dredged and pumped onto the portion of the Virginia Beach Hurricane Protection project just north of the inlet. Jetties at this inlet provide substrate for benthic habitat and fish, providing recreational fishing opportunities in the area.

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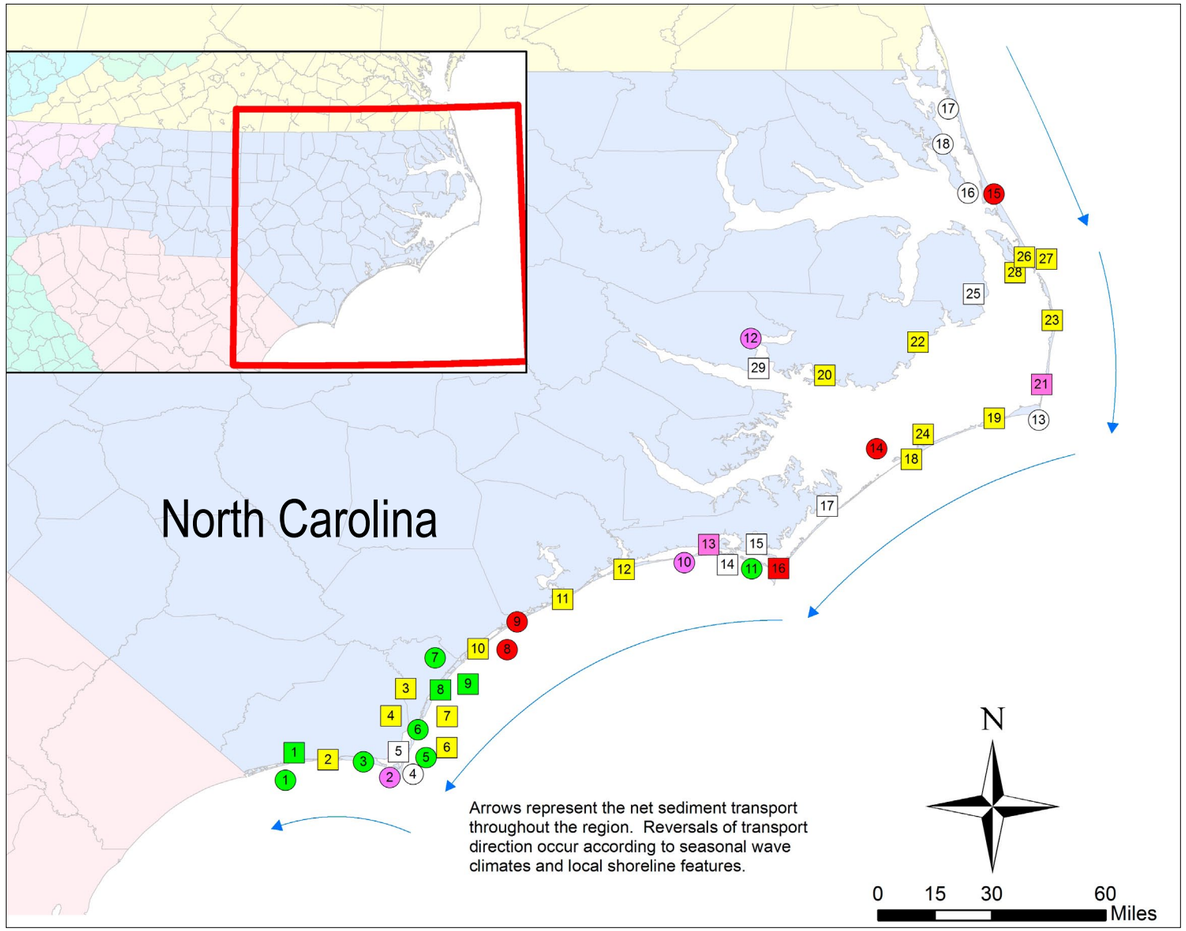
CLICK TO TURN



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North Carolina

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: Unassigned
S	NV	AIWW - Wilmington District
		Geographic Area: NC Region 1 – SC/NC Border to Brunswick/New Hanover County Line
1	SP	Brunswick County Beaches (Ocean Isle Beach)
1	NV	Shallotte River
2	SP	Brunswick County Beaches (Oak Island, Caswell Beach & Holden Beach)
2	NV	Coastal Inlets (Lockwoods Folly River Inlet & River)
3	SP	CAP - Section 1135 (Sea Turtle Habitat Project, Oak Island, NC)
3	NV	Wilmington Harbor (O&M)
4	NV	Wilmington Harbor (96 Act - CG)
5	NV	Wilmington Harbor Improvements
		Geographic Area: NC Region 2a – Brunswick/New Hanover County Line to North of Rich Inlet
4	SP	Fort Fisher
5	SP	Carolina Beach and Vicinity, Area South (Kure Beach)
6	SP	Carolina Beach and Vicinity, Carolina Beach Portion
6	NV	AIWW - Snow´s Cut
7	NV	Coastal Inlets (Carolina Beach Inlet)
8	NV	Coastal Inlets (Masonboro Inlet)
9	NV	Masonboro Inlet (Shallow Draft Navigation)
7	SP	Wrightsville Beach
		NC Region 2b – North of Rich Inlet to West of Bear Inlet
10	NV	Coastal Inlets (New Topsail Inlet & Connecting Channels)
11	NV	Coastal Inlets (New River Inlet &Channels to Jacksonville)
8	SP	West Onslow Beach & New River Inlet - Topsail Beach
9	SP	Surf City and North Topsail Beach
		NC Region 2c – West of Bear Inlet to North of Lighthouse
12	NV	Coastal Inlets (Bogue Inlet & Connecting Channel)
10	SP	Bogue Banks
13	NV	AIWW - Atlantic Beach Channels
11	SP	Fort Macon
14	NV	Morehead City Harbor

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

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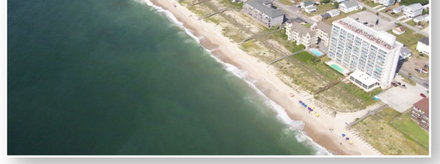

Kure Beach, NC

Manteo Bay, NC (dredging of navigation channel)

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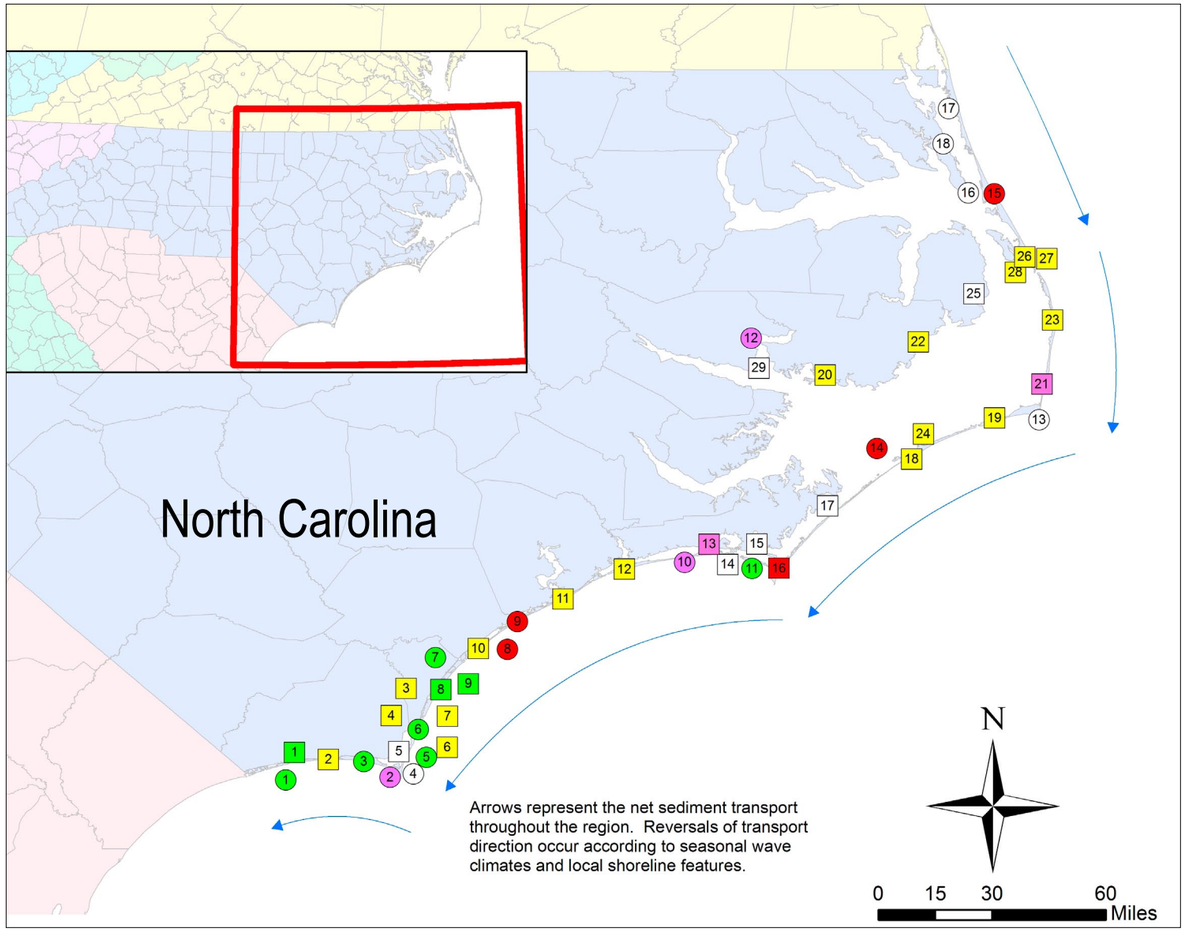

North Carolina Continued

PROJECT LEGEND

Key	Type	Project Name
		NC Region 3a – North of Lighthouse to South of Portsmouth
15	NV	Coastal Harbors (Shallow Draft - Waterway Connecting Pamlico Sound & Beaufort Harbor)
16	NV	AIWW - Channel from Back Sound to Lookout Bight
17	NV	Coastal Harbors - (Shallow Draft - Atlantic Harbor)
		NC Region 3b – South of Portsmouth to West of Buxton
18	NV	Coastal Inlets (Ocracoke Inlet)
19	NV	Coastal Harbors (Shallow Draft - Rollinson Channel)
20	NV	AIWW - Waterway Connecting Swanquarter Bay With Deep Bay
12	SP	CAP Section 1135 - (Belhaven Harbor Environmental Improvements, Belhaven)
13	SP	Tar River and Pamlico Sound
		NC Region 4a – West of Buxton to North of Rodanthe
21	NV	Coastal Harbors (Shallow Draft - Avon Harbor)
22	NV	AIWW - Far Creek
23	NV	AIWW - Channel From Pamlico Sound To Rodanthe
14	SP	Dare County Beaches (Hatteras & Ocracoke)
24	NV	Coastal Harbors (Shallow Draft - Silver Lake Harbor)
		NC Region 4b – North of Rodanthe to Dare/Currituck County Line
25	NV	Coastal Harbors (Stumpy Point Bay)
26	NV	CAP - Section 204 (Manteo, Old House Channel, NC)
15	SP	Dare County Beaches (Bodie Island Portion)
27	NV	Manteo (Shallowbag) Bay (Construction)
28	NV	Manteo (Shallowbag) Bay (O&M)
		NC Region 4c – Dare/Currituck County Line to NC/VA Border
29	NV	AIWW - Wrights Creek
16	SP	Currituck Sound
17	SP	CAP - Section 206 (Monkey Island)
18	SP	CAP - Section 206 (Northern Currituck Sound SAV and Marsh Restoration)

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
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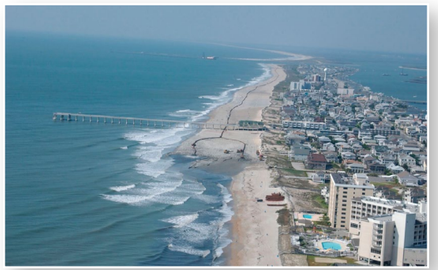
S = STATEWIDE PROJECT

Topsail Beach, NC



Wrightsville Beach, NC

North Carolina

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
NV	AIWW - Wilmington District	N							3
	Geographic Area: NC Region 1 – SC/NC Border to Brunswick/New Hanover County Line								
SP	Brunswick County Beaches (Ocean Isle Beach)	R	••	••••	••	••	••	••••	
NV	Shallotte River	N							3
SP	Brunswick County Beaches (Oak Island, Caswell Beach & Holden Beach)	A	x	x	x	x	x	x	
NV	Coastal Inlets (Lockwoods Folly River Inlet & River)	N							2
SP	CAP - Section 1135 (Sea Turtle Habitat Project, Oak Island)	C	•	••••	•	•	•	•	2
NV	Wilmington Harbor (O&M)	N							2
NV	Wilmington Harbor (96 Act - CG)	N							2
NV	Wilmington Harbor Improvements	N							2
	Geographic Area: NC Region 2a – Brunswick/New Hanover County Line to North of Rich Inlet								
SP	Fort Fisher	C	•	x	•	•	x	•	
SP	Carolina Beach and Vicinity, Area South (Kure Beach)	R	•	•	•	•	•	•	
SP	Carolina Beach and Vicinity, Carolina Beach Portion	R	•	•	•	•	•	•	
NV	AIWW - Snow´s Cut	N							3
NV	Coastal Inlets (Carolina Beach Inlet)	N							2
NV	Coastal Inlets (Masonboro Inlet)	N							3
NV	Masonboro Inlet (Shallow Draft Navigation)	N							3
SP	Wrightsville Beach	R	•	•	•	•	•	•	
	Geographic Area: NC Region 2b – North of Rich Inlet to West of Bear Inlet								
NV	Coastal Inlets (New Topsail Inlet & Connecting Channels)	N							2
NV	Coastal Inlets (New River Inlet & Channels to Jacksonville)	N							2
SP	West Onslow Beach & New River Inlet - Topsail Beach	A	x	x	x	x	x	x	
SP	Surf City and North Topsail Beach	A	x	x	x	x	x	•	
	Geographic Area: NC Region 2c – West of Bear Inlet to North of Lighthouse								
NV	Coastal Inlets (Bogue Inlet & Connecting Channel)	N							2
SP	Bogue Banks	S	x	x	x	x	x	x	
NV	AIWW - Atlantic Beach Channels	N							4
SP	Fort Macon	C	•	•	•	•	•	•	
NV	Morehead City Harbor	N							2

Footnotes

(1) Wilmington Harbor (O&M): Maintenance dredging results in onshore placement of beach quality material at Bald Head Island, Caswell Beach and the Town of Oak Island when funding allows. Material quantities are approximately 1 million cy dredged and placed every two years.

North Carolina

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
AIWW - Wilmington District	N	$43,573,000	$4,750,000	$11,823,000	$9,500,000	$8,500,000	$9,000,000
Geographic Area: NC Region 1 – SC/NC Border to Brunswick/New Hanover County Line							
Brunswick County Beaches (Ocean Isle Beach)	R	$0	$0	$0	$0	$0	$0
Shallotte River	N	$700,000	$0	$250,000	$150,000	$150,000	$150,000
Brunswick County Beaches (Oak Island, Caswell Beach & Holden Beach)	A	$0	$0	$0	$0	$0	$0
Coastal Inlets (Lockwoods Folly River Inlet & River)	N	$9,550,000	$0	$1,850,000	$2,500,000	$2,600,000	$2,600,000
CAP - Section 1135 (Sea Turtle Habitat Project, Oak Island)	C	$0	$0	$0	$0	$0	$0
Wilmington Harbor (O&M)	N	$121,617,000	$12,247,000	$29,370,000	$30,000,000	$20,000,000	$30,000,000
Wilmington Harbor (96 Act - CG)	N	$64,647,400	$1,847,400	$38,800,000	$8,000,000	$8,000,000	$8,000,000
Wilmington Harbor Improvements	N	$1,108,000	$104,000	$1,004,000	$0	$0	$0
Geographic Area: NC Region 2a – Brunswick/New Hanover County Line to North of Rich Inlet							
Fort Fisher	C	$0	$0	$0	$0	$0	$0
Carolina Beach and Vicinity, Area South (Kure Beach)	R	$0	$0	$0	$0	$0	$0
Carolina Beach and Vicinity, Carolina Beach Portion	R	$0	$0	$0	$0	$0	$0
AIWW - Snow´s Cut	N	$1,000,000	$0	$0	$500,000	$500,000	$0
Coastal Inlets (Carolina Beach Inlet)	N	$5,400,000	$0	$900,000	$1,500,000	$1,500,000	$1,500,000
Coastal Inlets (Masonboro Inlet)	N	$11,700,000	$50,000	$4,250,000	$300,000	$7,000,000	$100,000
Masonboro Inlet (Shallow Draft Navigation)	N	$0	$0	$0	$0	$0	$0
Wrightsville Beach	R	$0	$0	$0	$0	$0	$0
Geographic Area: NC Region 2b – North of Rich Inlet to West of Bear Inlet							
Coastal Inlets (New Topsail Inlet & Connecting Channels)	N	$6,950,000	$0	$1,850,000	$1,700,000	$1,700,000	$1,700,000
Coastal Inlets (New River Inlet & Channels to Jacksonville)	N	$9,850,000	$600,000	$2,450,000	$2,200,000	$2,300,000	$2,300,000
West Onslow Beach & New River Inlet - Topsail Beach	A	$0	$0	$0	$0	$0	$0
Surf City and North Topsail Beach	A	$0	$0	$0	$0	$0	$0
Geographic Area: NC Region 2c – West of Bear Inlet to North of Lighthouse							
Coastal Inlets (Bogue Inlet & Connecting Channel)	N	$5,250,000	$0	$750,000	$1,500,000	$1,500,000	$1,500,000
Bogue Banks	S	$0	$0	$0	$0	$0	$0
AIWW - Atlantic Beach Channels	N	$0	$0	$0	$0	$0	$0
Fort Macon	C	$0	$0	$0	$0	$0	$0
Morehead City Harbor	N	$32,200,000	$3,800,000	$5,900,000	$5,000,000	$13,000,000	$4,500,000

CLICK TO TURN

North Carolina

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
NV	Coastal Harbors (Shallow Draft - Waterway Connecting Pamlico Sound & Beaufort Harbor)	N							3
NV	AIWW - Channel from Back Sound to Lookout Bight	N							4
NV	Coastal Harbors - (Shallow Draft - Atlantic Harbor)	N							3
	Geographic Area: NC Region 3b – South of Portsmouth to West of Buxton								
NV	Coastal Inlets (Ocracoke Inlet)	N							2
NV	Coastal Harbors (Shallow Draft - Rollinson Channel)	N							2
NV	AIWW - Waterway Connecting Swanquarter Bay With Deep Bay	N							4
SP	CAP Section 1135 - (Belhaven Harbor Environmental Improvements, Belhaven)	S	x	x	x	x	x	x	
SP	Tar River and Pamlico Sound	S	x	x	x	x	x	x	
	Geographic Area: NC Region 4a – West of Buxton to North of Rodanthe								
NV	Coastal Harbors - (Shallow Draft - Avon Harbor)	N							4
NV	AIWW - Far Creek	N							3
NV	AIWW - Channel From Pamlico Sound To Rodanthe	N							2
SP	Dare County Beaches (Hatteras & Ocracoke)	S	x	x	x	x	x	x	
NV	Coastal Harbors (Shallow Draft - Silver Lake Harbor)	N							2
	Geogrpahic Area: NC Region 4b – North of Rodanthe to Dare/Currituck County Line								
NV	Coastal Harbors (Stumpy Point Bay)	N							3
NV	CAP - Section 204 (Manteo, Old House Channel)	N							4
SP	Dare County Beaches (Bodie Island Portion)	E	• • •	• • •	• • •	• • •	• • •	• • •	
NV	Manteo (Shallowbag) Bay (Construction)	N							5
NV	Manteo (Shallowbag) Bay (O&M)	N							2
	Geographic Area: NC Region 4c – Dare/Currituck County Line to NC/VA Border								
NV	AIWW - Wrights Creek	N							3
SP	Currituck Sound	S	x	x	x	x	x	x	
SP	CAP - Section 206 (Monkey Island)	S	x	x	x	x	x	x	
SP	CAP - Section 206 (Northern Currituck Sound SAV and Marsh Restoration)	S	x	x	x	x	x	x	

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
• • • = Significant
• • = Moderate
• = Minimal
x = None

Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Click legend for more information.

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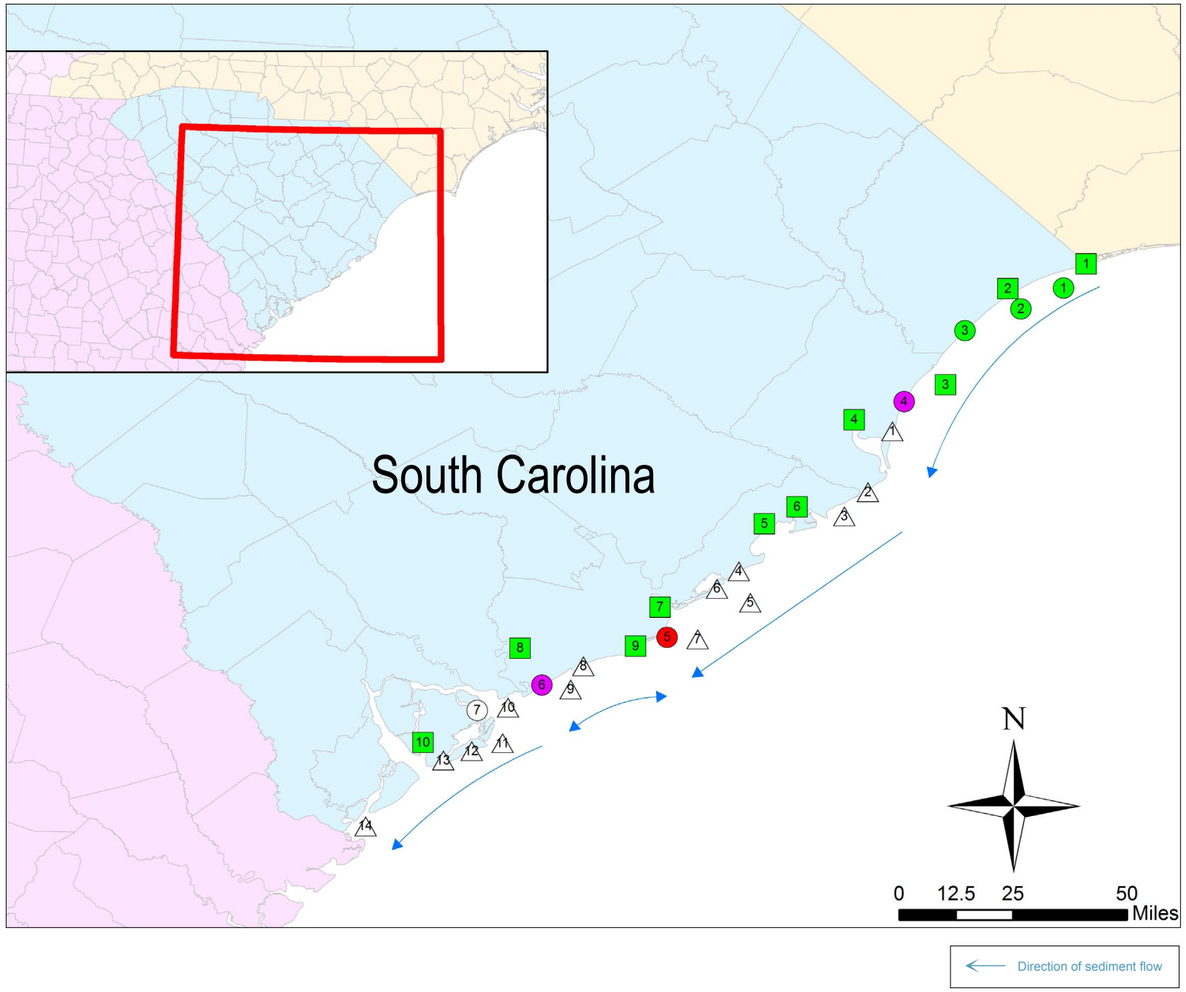
North Carolina

Project Name and Project Reliability	Phase	Estimated Future Federal Costs Cont.: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Coastal Harbors (Shallow Draft - Waterway Connecting Pamlico Sound & Beaufort Harbor)	N	$16,000,000	$0	$4,000,000	$3,500,000	$5,000,000	$3,500,000
AIWW - Channel from Back Sound to Lookout Bight	N	$5,200,000	$0	$1,100,000	$1,300,000	$1,400,000	$1,400,000
Coastal Harbors - (Shallow Draft - Atlantic Harbor)	N	$0	$0	$0	$0	$0	$0
Geographic Area: NC Region 3b – South of Portsmouth to West of Buxton							
Coastal Inlets (Ocracoke Inlet)	N	$0	$0	$0	$0	$0	$0
Coastal Harbors (Shallow Draft - Rollinson Channel)	N	$2,250,000	$50,000	$700,000	$500,000	$500,000	$500,000
AIWW - Waterway Connecting Swanquarter Bay With Deep Bay	N	$0	$0	$0	$0	$0	$0
CAP Section 1135 - (Belhaven Harbor Environmental Improvements, Belhaven)	S	$0	$0	$0	$0	$0	$0
Tar River and Pamlico Sound	S	$0	$0	$0	$0	$0	$0
Geographic Area: NC Region 4a – West of Buxton to North of Rodanthe							
Coastal Harbors - (Shallow Draft - Avon Harbor)	N	$7,350,000	$0	$1,800,000	$1,850,000	$1,850,000	$1,850,000
AIWW - Far Creek	N	$2,250,000	$0	$0	$750,000	$750,000	$750,000
AIWW - Channel From Pamlico Sound To Rodanthe	N	$3,350,000	$0	$350,000	$1,000,000	$1,000,000	$1,000,000
Dare County Beaches (Hatteras & Ocracoke)	S	$0	$0	$0	$0	$0	$0
Coastal Harbors (Shallow Draft - Silver Lake Harbor)	N	$4,600,000	$150,000	$1,450,000	$1,000,000	$1,000,000	$1,000,000
Geogrpahic Area: NC Region 4b – North of Rodanthe to Dare/Currituck County Line							
Coastal Harbors (Stumpy Point Bay)	N	$2,200,000	$0	$500,000	$0	$0	$1,700,000
CAP - Section 204 (Manteo, Old House Channel)	N	$1,793,000	$260,000	$50,000	$1,463,000	$20,000	$0
Dare County Beaches (Bodie Island Portion)	E	$0	$0	$0	$0	$0	$0
Manteo (Shallowbag) Bay (Construction)	N	$4,000,000	$0	$600,000	$3,400,000	$0	$0
Manteo (Shallowbag) Bay (O&M)	N	$83,795,000	$4,095,000	$19,700,000	$20,000,000	$20,000,000	$20,000,000
Geographic Area: NC Region 4c – Dare/Currituck County Line to NC/VA Border							
AIWW - Wrights Creek	N	$0	$0	$0	$0	$0	$0
Currituck Sound	S	$0	$0	$0	$0	$0	$0
CAP - Section 206 (Monkey Island)	S	$0	$0	$0	$0	$0	$0
CAP - Section 206 (Northern Currituck Sound SAV and Marsh Restoration)	S	$0	$0	$0	$0	$0	$0
Totals		$446,333,400	$27,953,400	$129,447,000	$97,613,000	$98,270,000	$93,050,000

Opportunities for Action

1. Wilmington District will continue the current practices of placing beach quality material on adjacent beaches in all of the District's navigation dredging actions. The District will also continue to combine contract actions on the three current authorized shore protection projects at **Carolina Beach, Kure Beach** and **Ocean Isle Beach** as they are all on the same 3-year nourishment cycle and will add in **Wrightsville Beach/Masonboro Island** when that 4-year nourishment cycle falls at the same time as such was the case in FY 2010.

CLICK TO TURN



South Carolina

PROJECT LEGEND

Key	Type	Project Name
		Little River Inlet to Georgetown Harbor
1	NV	Little River Inlet
2	NV	AIWW - Little River to Winyah Bay
1	SP	Myrtle Beach Reach 1 - North Myrtle Beach
2	SP	Myrtle Beach Reach 2 - Myrtle Beach
3	SP	Myrtle Beach Reach 3 - Garden City/Surfside
3	NV/SP	Murrells Inlet
4	SP	Pawleys Island
△1	NV	North Inlet
4	NV	Georgetown Harbor
		Georgetown Harbor to Charleston Harbor
5	NV	AIWW - Winyah Bay to Charleston
△2	NV	North Santee River Inlet
△3	NV	South Santee River Inlet
6	NV	Town Creek Inlet
△4	NV	Price Inlet
△5	NV	Capers Inlet
△6	NV	Dewees Inlet
7	NV	Charleston Harbor
		Charleston Harbor to Calibogue Sound
8	NV	AIWW - Charleston to Port Royal Sound
△7	NV	Lighthouse Inlet
5	SP	Folly Beach
9	NV/ER	Stono Inlet - Folly River
△8	NV	Captain Sams Inlet
△9	NV	North Edisto River Inlet
6	SP	Edisto Island
△10	NV	St Helena Sound
○7	SP	Hunting Island
△11	NV	Fripp Inlet
△12	NV	Skull Inlet
△13	NV	Trenchards Inlet
10	NV	Port Royal Sound
△14	NV	Calibogue Sound

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Folly Beach (before)

Folly Beach (after)

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CLICK TO TURN

CLICK TO TURN

South Carolina

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Little River Inlet to Georgetown Harbor								
NV	Little River Inlet	N							4
NV[1]	AIWW - Little River to Winyah Bay	N							5
SP[2]	Myrtle Beach Reach 1 - North Myrtle Beach	C	••	•	••	•	•	••	
SP[2]	Myrtle Beach Reach 2 - Myrtle Beach	C	••	•	••	•	•	••	
SP[2]	Myrtle Beach Reach 3 - Garden City/Surfside	C	••	•	••	•	•	••	
NV/SP[3]	Murrells Inlet	N/R	••	•	•	x	x	••	4
SP	Pawleys Island	A	•	•	•	•	•	•	
NV	North Inlet								
NV	Georgetown Harbor	N							4
	Geographic Area: Georgetown Harbor to Charleston Harbor								
NV[1]	AIWW - Winyah Bay to Charleston	N							5
NV	North Santee River Inlet								
NV	South Santee River Inlet								
NV	Town Creek Inlet	N							4
NV	Price Inlet								
NV	Capers Inlet								
NV	Dewees Inlet								
NV	Charleston Harbor	N							1
	Geographic Area: Charleston Harbor to Calibogue Sound								
NV[1]	AIWW - Charleston to Port Royal Sound	N							5
NV	Lighthouse Inlet								
SP	Folly Beach	C	•	••	•	•	•••	••	
NV/ER[4]	Stono Inlet - Folly River	N/R	x	•	x	x	x	x	4
NV	Captain Sams Inlet								
NV	North Edisto River Inlet								
SP	Edisto Island	S	•	••	•	•	••••	•	
NV	St Helena Sound								
SP	Hunting Island	C	•	••	••	x	•	•	
NV	Fripp Inlet								
NV	Skull Inlet								
NV	Trenchards Inlet								
NV	Port Royal Sound	N							5
NV	Calibogue Sound								

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
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Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
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R = Renourishment(s) initiated
N = Navigation maintenance

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••• = Significant
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5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Footnotes

(1) Estimated future Federal costs are shown for the entire Atlantic Intracoastal Waterway Navigation O&M project in the first entry, **AIWW - Little River to Winyah Bay.** The project is split into three reaches for regional management purposes.

(2) Estimated future Federal costs are shown for the entire Myrtle Beach Shore Protection Project in the first entry, **Myrtle Beach Reach 1 - North Myrtle Beach**. The project has three reaches, each with different design templates and non-Federal sponsors.

(3) Murrells Inlet: This project is navigation dredging of Murrells Inlet with material placement on Garden City Beach and/or Huntington Beach State Park.

(4) Stono Inlet-Folly River: This project is navigation dredging of Stono Inlet with material placement on Bird Key.

Click legend for more information.

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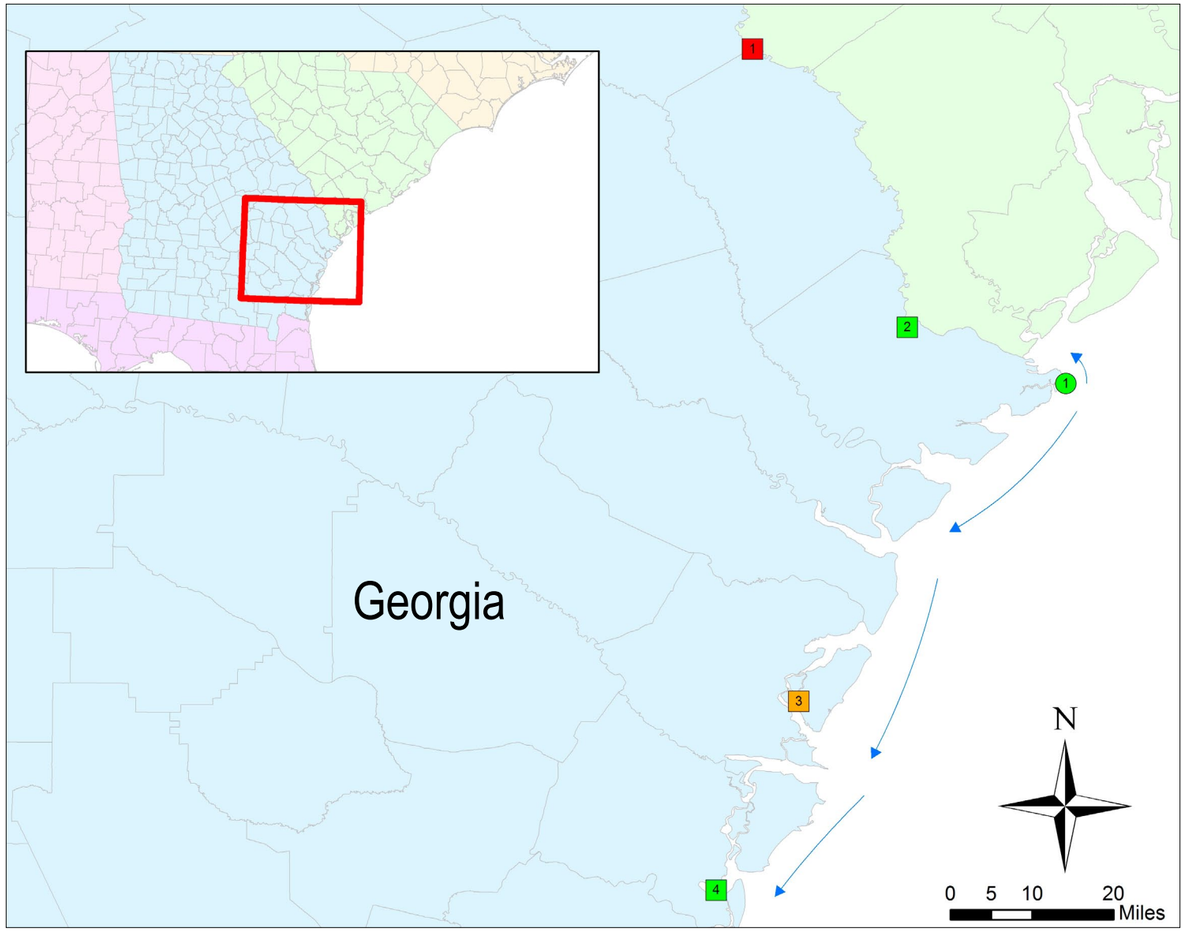
South Carolina

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016a
Geographic Area: Little River Inlet to Georgetown Harbor							
Little River Inlet	N	$3,200,000	$3,200,000	$0	$0	$0	$0
AIWW - Little River to Winyah Bay	N	$48,499,000	$11,750,000	$12,103,000	$12,466,000	$6,000,000	$6,180,000
Myrtle Beach Reach 1 - North Myrtle Beach	C	$900,000	$300,000	$200,000	$200,000	$200,000	$0
Myrtle Beach Reach 2 - Myrtle Beach	C	$0	$0	$0	$0	$0	$0
Myrtle Beach Reach 3 - Garden City/Surfside	C	$0	$0	$0	$0	$0	$0
Murrells Inlet	N/R	$4,800,000	$4,800,000	$0	$0	$0	$0
Pawleys Island	A	$6,960,000	$6,935,000	$0	$0	$0	$0
North Inlet							
Georgetown Harbor	N	$0	$0	$0	$0	$0	$0
Geographic Area: Georgetown Harbor to Charleston Harbor							
AIWW - Winyah Bay to Charleston	N	$0	$0	$0	$0	$0	$0
North Santee River Inlet							
South Santee River Inlet							
Town Creek Inlet	N	$2,898,000	$546,000	$562,000	$579,000	$579,000	$614,000
Price Inlet							
Capers Inlet							
Dewees Inlet							
Charleston Harbor	N	$85,985,000	$21,781,000	$12,593,000	$27,270,000	$6,659,000	$17,682,000
Geographic Area: Charleston Harbor to Calibogue Sound							
AIWW - Charleston to Port Royal Sound	N	$0	$0	$0	$0	$0	$0
Lighthouse Inlet							
Folly Beach	C	$15,976,000	$200,000	$15,726,000	$0	$50,000	$0
Stono Inlet - Folly River	N/R	$7,330,000	$2,000,000	$500,000	$2,100,000	$525,000	$2,205,000
Captain Sams Inlet							
North Edisto River Inlet							
Edisto Island	S	$0	$0	$0	$0	$0	$0
St Helena Sound							
Hunting Island	C	$0	$0	$0	$0	$0	$0
Fripp Inlet							
Skull Inlet							
Trenchards Inlet							
Port Royal Sound	N	$0	$0	$0	$0	$0	$0
Calibogue Sound							
Totals		$176,548,000	$51,512,000	$41,684,000	$42,640,000	$14,031,000	$26,681,000

Opportunities for Action

1. Historical beneficial uses of dredged material from **Little River Inlet, Murrells Inlet,** and **Folly River** should be continued when need and funding allow.
2. Beneficial uses of dredged material from **Charleston and Georgetown Harbors** should be studied and implemented at the first practical opportunity. Beneficial uses should not be limited to beach compatible sediment and placement on adjacent beaches.
3. Areas not included in the authorized footprint of the Myrtle Beach Storm Damage Reduction project, such as Arcadian Shores, could be added to the Federal project through a General Re-evaluation Report.
4. Depending on need, the renourishment of **Myrtle Beach** and **Pawleys Island** could be paired to save on mobilization/demobilization costs.



Georgia

PROJECT LEGEND

Key	Type	Project Name
		Unassigned
1	NV	Savannah River Between Augusta and Savannah (SRBAS)
		Savannah Harbor, GA
2	NV	Savannah Harbor
1	SP	Tybee Island
		Geographic Area: Southeast Atlantic Coast
3	NV	AIWW - Channel from Port Royal Sound, SC to Cumberland Sound
		Geographic Area: Bruswick Harbor, GA
4	NV	Brunswick Harbor

Shore Protection Projects Project Reliability

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- = POOR
- = UNCONSTRUCTED
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Navigation Projects Project Reliability

- = GOOD
- = MODERATE
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- = FAILED
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△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Tybee Island (before)

Tybee Island (after)

CLICK TO TURN

Georgia

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
Geographic Area: Unassigned									
NV	Savannah River Between Augusta and Savannah (SRBAS)	N							5
Geographic Area: Savannah Harbor, GA									
NV	Savannah Harbor	N							1
SP	Tybee Island	R	••	••	••	•	••	••	
Geographic Area: Southeast Atlantic Coast									
NV	AIWW - Channel from Port Royal Sound to Cumberland Sound	N							4
Geographic Area: Brunswick Harbor, GA									
NV	Brunswick Harbor	N							3

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

For complete definitions see page 7.

Georgia

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Geographic Area: Unassigned							
Savannah River Between Augusta and Savannah (SRBAS)	N	$0	$0	$0	$0	$0	$0
Geographic Area: Savannah Harbor, GA							
Savannah Harbor	N	$130,078,000	$24,016,000	$24,976,000	$25,976,000	$27,015,000	$28,095,000
Tybee Island	R	$15,306,666	$600,000	$1,040,000	$1,266,666	$12,400,000	$0
Geographic Area: Southeast Atlantic Coast							
AIWW - Channel from Port Royal Sound to Cumberland Sound	N	$41,900,000	$3,100,000	$9,000,000	$9,600,000	$9,900,000	$10,300,000
Geographic Area: Brunswick Harbor, GA							
Brunswick Harbor	N	$44,810,000	$8,300,000	$8,500,000	$9,410,000	$9,100,000	$9,500,000
Totals		$232,094,666	$36,016,000	$43,516,000	$46,252,666	$58,415,000	$47,895,000

Opportunities for Action

1. Studies have shown that nearshore placement of material dredged from the Savannah Harbor Navigation Project Entrance Channel in shallow water would be a benefit to the beach (Tybee Island Shore Protection Project), however O and M interests have indicated that we must use the "least cost" alternative for disposal of dredged material, which is in the approved offshore placement site.

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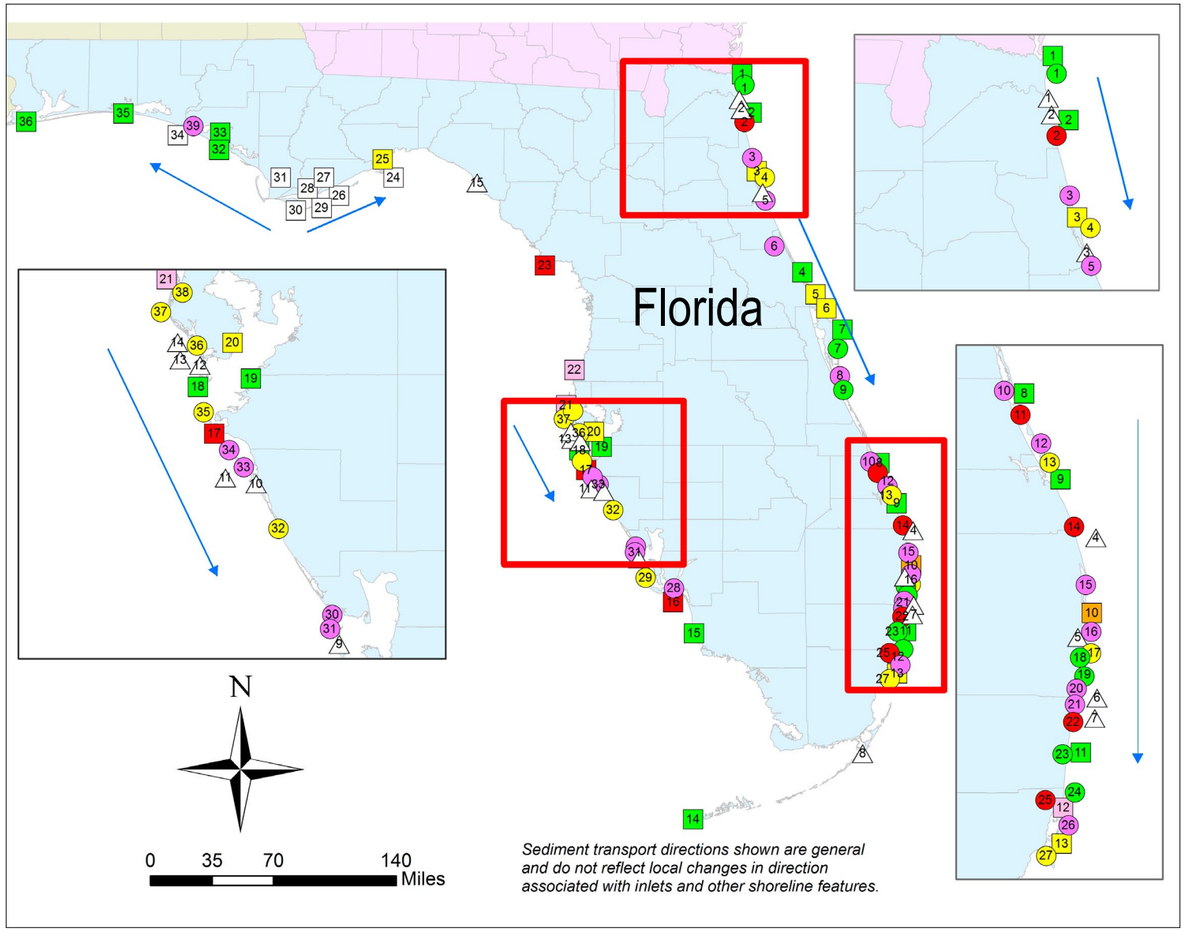


Florida

PROJECT LEGEND

Key	Type	Project Name
		Geographic Area: Northeast Atlantic Coast (Jacksonville District)
1	NV	St. Mary´s Entrance/Fernandina Harbor
1	SP	Nassau County SPP
△1	NV	Nassau Sound
△2	NV	Ft. George Inlet
2	NV	St. Johns River/Jacksonville Harbor
2	SP	Duval County BEC
3	SP	St. Johns County SPP - Feasibility
3	NV	St. Augustine Inlet
4	SP	St. Johns County BEC
△3	NV	Matanzas Inlet
5	SP	Flager County SPP - Feasibility
6	SP	Volusia County - Feasibility
4	NV	Ponce de Leon Inlet
5	NV	Atlantic Intracoastal Waterway (AIWW)
6	NV	Intracoastal Waterway- Jacksonville to Miami (IWW)
		Geographic Area: Central Atlantic Coast (Jacksonville District)
7	NV	Canaveral Harbor
7	SP	Brevard County - North Reach
8	SP	Brevard County - Mid Reach GRR
9	SP	Brevard County, South Reach
10	SP	Indian River County
8	NV	Ft. Pierce Inlet
11	SP	Fort Pierce Beach SPP
12	SP	St. Lucie County SPP - Feasibility
13	SP	Martin County HSDR
9	NV	St. Lucie Inlet
△4	NV	Jupiter Inlet

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

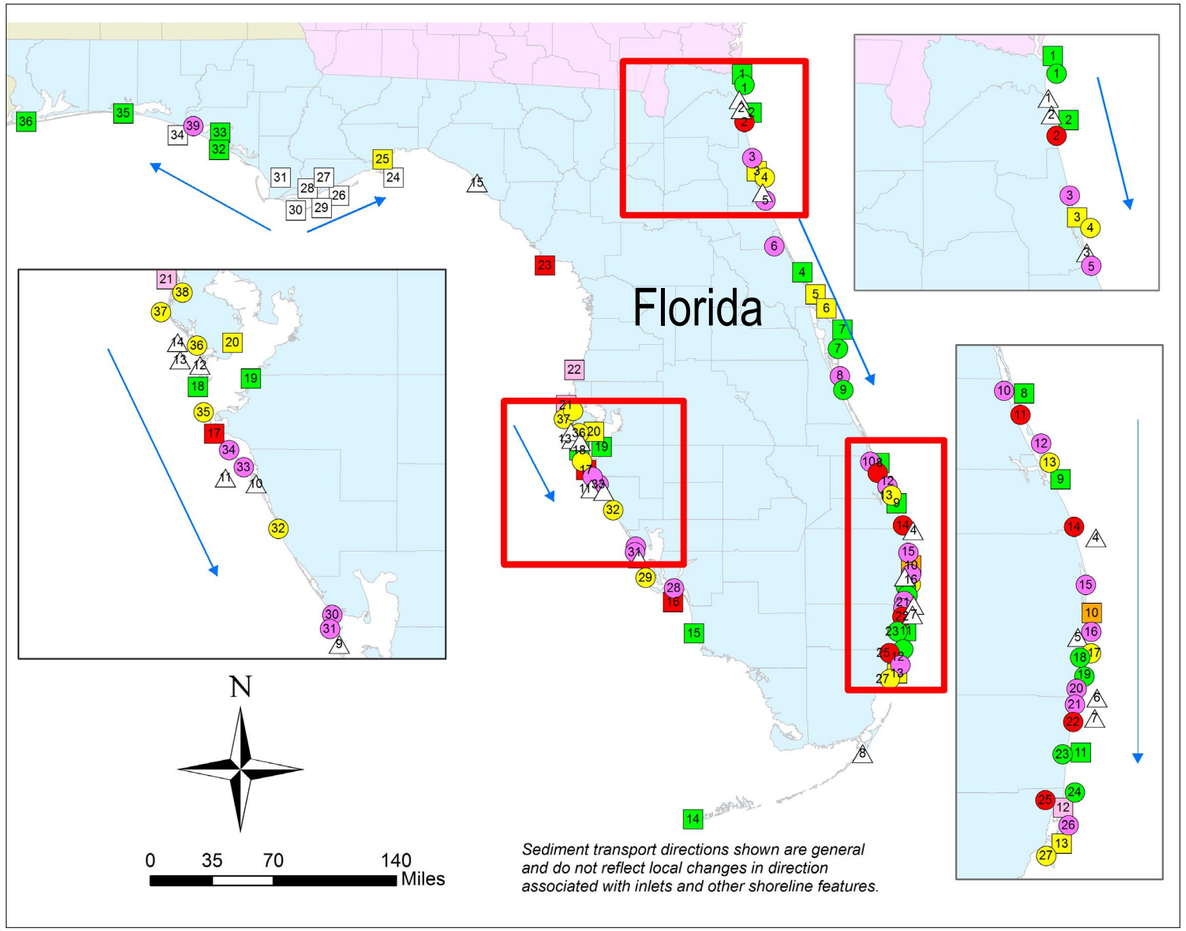
- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Fernandina Beach (before)

Fernandina Beach (after)



Florida Continued

PROJECT LEGEND

		Geographic Area: Southeast Atlantic Coast (Jacksonville District)
14	SP	Palm Beach SPP - Jupiter/Carlin
15	SP	Palm Beach SPP - Juno Beach
10	NV	Lake Worth/Palm Beach Inlet
16	SP	Palm Beach SPP - Midtown Palm Beach
△5	NV	South Lake Worth/Boynton Inlet
17	SP	Palm Beach SPP - Ocean Ridge
18	SP	Palm Beach SPP - Delray Beach
19	SP	Palm Beach SPP - North Boca Raton
20	SP	Palm Beach SPP - Central Boca Raton
△6	NV	Boca Raton Inlet
21	SP	Broward County SPP - Segment 1 Feasibility
△7	NV	Hillsboro Inlet
22	SP	Broward County SPP - Segment II (Ft. Lauderdale)
23	SP	Broward County SPP - Segment III (Hollywood/Hallandale)
11	NV	Port Everglades
24	SP	Dade County BEC - Sunny Isles
25	SP	Dade County BEC - Bal Harbor
12	NV	Bakers Haulover Inlet
26	SP	Miami Beach Section 227
13	NV	Government Cut/Miami Harbor
27	SP	Virginia Key
		Geographic Area: Florida Keys (Jacksonville District)
△8	NV	Largo Sound
14	NV	Key West Harbor
		Geographic Area: Southwest Gulf Coast (Jacksonville District)
15	NV	Gordon - Big Marco Pass
16	NV	Estero Pass/Fort Meyers
28	SP	Lee County BEC - Estero Island
29	SP	Lee County BEC - Captiva

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Brevard County (before)

Brevard County (after)

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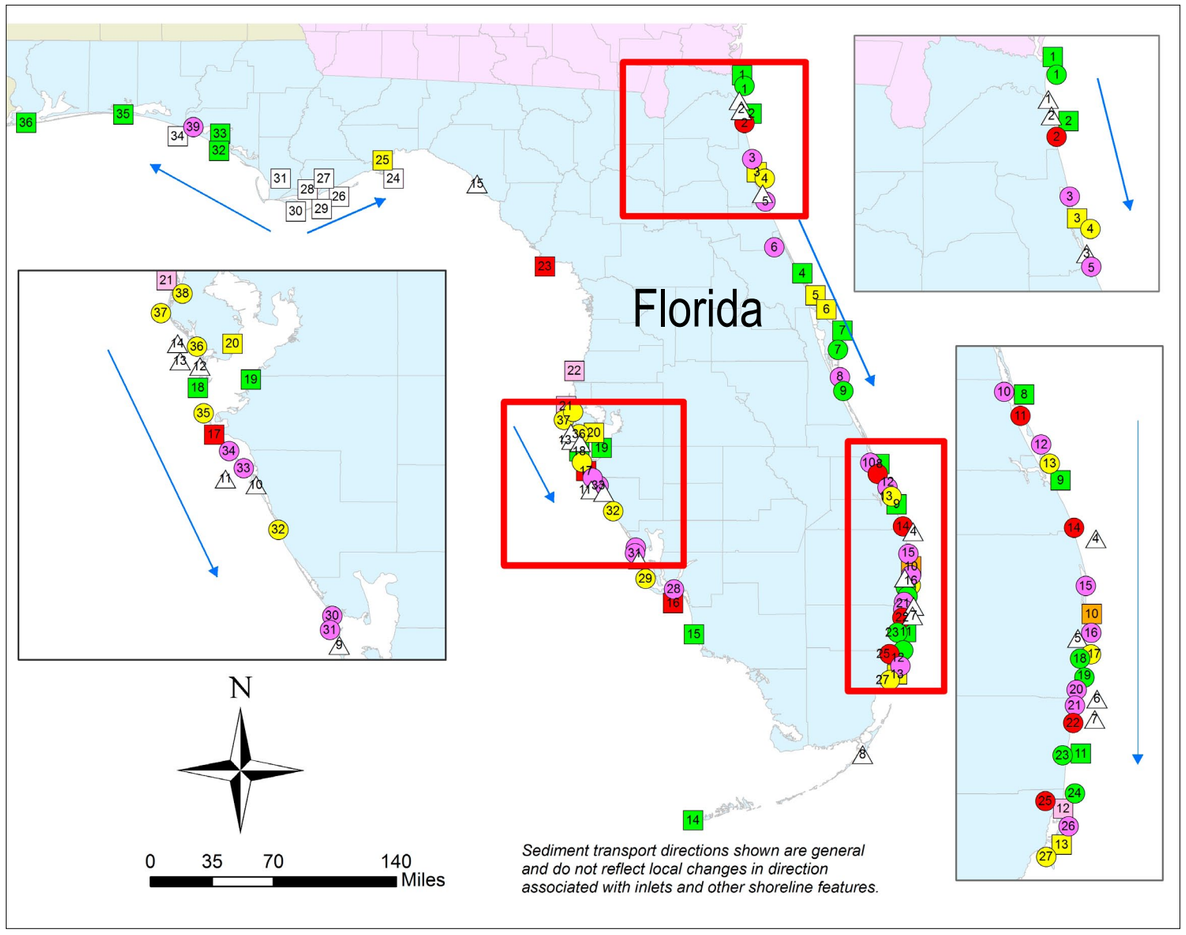

Florida Continued

PROJECT LEGEND

Geographic Area: Southwest Gulf Coast (Jacksonville District)		
△9	NV	Boca Grande Channel/Charlotte Harbor
30	SP	Lee County BEC - Gasparilla
31	SP	Charlotte County
32	SP	Sarasota County - Venice Beach
△10	NV	Big Sarasota Pass/Sarasota Bay
33	SP	Lido Key SPP
△11	NV	New Pass
34	SP	Sarasota County BEC - Longboat Key
17	NV	Longboat Pass
35	SP	Manatee County SPP - Anna Maria Island
18	NV	Tampa Harbor
19	NV	Port Manatee
△12	NV	Passa-A-Grille
△13	NV	Blind Pass
36	SP	Pinellas County - Long Key
△14	NV	Johns Pass
20	NV	St. Petersburg Harbor
37	SP	Pinellas County - Treasure Island
38	SP	Pinellas County - Sand Key
21	NV	Clearwater Pass/Harbor
22	NV	Intracoastal Waterway - Caloosahatchee River to Anclote River (IWW- CR to AR) and Casey's Pass/Venice Inlet
Geographic Area: Big Bend Gulf Coast (Jacksonville District)		
23	NV	Cedar Key Harbor
△15	NV	Keaton Beach
Geographic Area: Western Florida Panhandle (Mobile District)		
24	NV	GIWW Gulf County Canal
25	NV	Panacea Harbor
26	NV	GIWW Apalachicola Bay to Carrabelle
27	NV	Apalachicola Bay: East Point
28	NV	Apalachicola Bay St. George Island Channel
29	NV	Apalachicola Bay Scipio Creek
30	NV	Apalachicola Bay Two Mile Channel
31	NV	GIWW East Bay to Apalachicola Bay
32	NV	Panama City: Entrance Channel
33	NV	Panama City: Bay Channel
39	SP	Panama City Beaches
34	NV	GIWW Choctawhatchee Bay to St. Andrews Bay
35	NV	Destin/East Pass
36	NV	Pensacola Harbor

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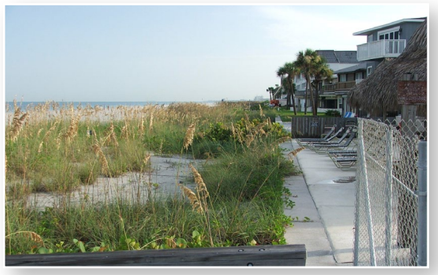
Belleair Beach (before)



Belleair Beach (after)

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Florida

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Northeast Atlantic Coast (Jacksonville District)								
NV	St.Mary's Entrance/Fernandia Harbor	N							4
SP	Nassau County SPP	R	••	•••	••	•	••	•••	
NV	Nassau Sound								
NV	Ft. George Inlet								
NV	St. Johns River/Jacksonville Harbor	N							1
SP	Duval County BEC	R	•••	•••	•••	•	••	•••	
SP	St. Johns County SPP - Feasibility	S	••	•••	••	•	•••	•••	
NV	St. Augustine Inlet	N							5
SP	St. Johns County BEC	R	•••	•••	•••	•	••	•••	
NV	Matanzas Inlet								
SP	Flager County SPP - Feasibility	S	••	•••	••	•	•••	•••	
SP	Volusia County - Feasibility	S	•••	••	•••	••	••	•••	
NV	Ponce de Leon Inlet	N							4
NV	Atlantic Intracoastal Waterway (AIWW)	N							5
NV	Intracoastal Waterway - Jacksonville to Miami (IWW)	N							1
	Geographic Area: Central Atlantic Coast (Jacksonville District)								
NV	Canaveral Harbor	N							1
SP	Brevard County - North Reach	R	•••	•••	•••	•	••	•••	
SP	Brevard County - Mid Reach GRR	S	•••	•••	•••	•	••	•••	
SP	Brevard County, South Reach	R	•••	•••	•••	•	••	•••	
SP	Indian River County	A	x	x	x	x	x	x	
NV	Ft. Pierce Inlet	N							5
SP	Fort Pierce Beach SPP	R	•••	•••	•••	•	•••	•••	
SP	St. Lucie County SPP - Feaibility	S	••	•••	••	•••	•••	•••	
SP	Martin County HSDR	R	•••	•••	•••	•	•••	•••	
NV	St. Lucie Inlet	N							4
NV	Jupiter Inlet								

Project Type

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For complete definitions see page 7.

Click legend for more information.

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Florida

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
	Geographic Area: Northeast Atlantic Coast (Jacksonville District)						
St.Mary's Entrance/Fernandia Harbor	N	$9,000,000	$1,800,000	$1,800,000	$1,800,000	$1,800,000	$1,800,000
Nassau County SPP	R	$10,276,000	$276,000	$10,000,000	$0	$0	$0
Nassau Sound							
Ft. George Inlet							
St. Johns River/Jacksonville Harbor	N	$42,569,750	$7,569,750	$8,000,000	$8,000,000	$9,000,000	$10,000,000
Duval County BEC	R	$7,447,000	$150,000	$150,000	$450,000	$650,000	$6,047,000
St. Johns County SPP - Feasibility	S	$0	$0	$0	$0	$0	$0
St. Augustine Inlet	N	$0	$0	$0	$0	$0	$0
St. Johns County BEC	R	$12,602,000	$588,000	$12,014,000	$0	$0	$0
Matanzas Inlet							
Flager County SPP - Feasibility	S	$0	$0	$0	$0	$0	$0
Volusia County - Feasibility	S	$0	$0	$0	$0	$0	$0
Ponce de Leon Inlet	N	$2,000,000	$0	$2,000,000	$0	$0	$0
Atlantic Intracoastal Waterway (AIWW)	N	$3,500,000	$700,000	$700,000	$700,000	$700,000	$700,000
Intracoastal Waterway - Jacksonville to Miami (IWW)	N	$10,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000	$2,000,000
	Geographic Area: Central Atlantic Coast (Jacksonville District)						
Canaveral Harbor	N	$30,000,000	$6,000,000	$6,000,000	$6,000,000	$6,000,000	$6,000,000
Brevard County - North Reach	R	$192,857	$0	$0	$0	$0	$192,857
Brevard County - Mid Reach GRR	S	$3,468,000	$0	$0	$633,000	$0	$2,835,000
Brevard County, South Reach	R	$237,429	$0	$0	$0	$0	$237,429
Indian River County	A	$0	$0	$0	$0	$0	$0
Ft. Pierce Inlet	N	$0	$0	$0	$0	$0	$0
Fort Pierce Beach SPP	R	$8,115,500	$0	$3,974,000	$0	$4,141,500	$0
St. Lucie County SPP - Feaibility	S	$0	$0	$0	$0	$0	$0
Martin County HSDR	R	$7,250,000	$7,250,000	$0	$0	$0	$0
St. Lucie Inlet	N	$0	$0	$0	$0	$0	$0
Jupiter Inlet							

Opportunities for Action

1. Regional Sediment Management studies are being undertaken to investigate the optimal use of sand between an authorized and constructed beach nourishment project on **St. Augustine Beach**, St. Johns County and potential Hurricane and Storm Damage Reduction Projects on the nearby beaches of South Ponte Vedra and Vilano, currently undergoing feasibility study. RSM studies will analyze how projects can maximize RSM opportunities, utilizing sand from offshore borrow sources, beach quality dredged material from the Intracoastal Waterway (IWW), and sand dredged from the **St. Augustine Inlet** Federal channel, ebb shoal, and flood shoal complex.
2. Material dredged from the Intracoastal Waterway inside **Matanzas Inlet** in St. Johns County has been stored in an upland disposal site. Periodically, sand from this site has been transferred to the beaches of Summer Haven in St. Johns County, providing hurricane and storm damage reduction for coastal infrastructure while creating capacity in the disposal site for future IWW dredging. Similar operations should continue in the future at this site, and at other sites where beach quality material is contained.
3. The beach at Lummus Park, Miami-Dade County has accreted a significant amount of sand due to its location, directly north of the northern jetty of Government Cut. The local sponsor for the Dade County Beach Erosion Control and Hurricane Protection Project has removed material from this beach and transferred it south, to erosional beaches downdrift of the inlet. This operation could take place on a reoccurring basis to nourish downdrift beaches, especially in light of the available sand shortage for Miami-Dade County.
4. LWI sand transfer plant is a future way to use sand in an impoundment basin on downdrift beaches, but there must be public access.
5. Most navigation projects with beach quality sand put material on the beach, but the timing can be worked to coordinate Harbor O&M, IWW O&M, and CG nourishments.

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Florida

Extent of Resources at Risk

Project Type	Project Name and Project Reliability	Phase	Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Southeast Atlantic Coast (Jacksonville District)								
SP	Palm Beach SSP - Jupiter/Carlin	R	•••	•••	•••	••	•••	•••	
SP	Palm Beach SPP - Juno Beach	A	•••	•••	•••	••	•••	•••	
NV	Lake Worth/Palm Beach Inlet	N							3
SP	Palm Beach SPP - Midtown Palm Beach	A	•••	•••	•••	••	•••	•••	
NV	South Lake Worth/Boynton Inlet								
SP	Palm Beach SPP - Ocean Ridge	R	•••	•••	•••	••	•••	•••	
SP	Palm Beach SPP - Delray Beach	R	•••	•••	•••	••	•••	•••	
SP	Palm Beach SPP - North Boca Raton	R	•••	•••	•••	•	•••	•••	
SP	Palm Beach SPP - Central Boca Raton	A	•••	•••	•••	•	•••	•••	
NV	Boca Raton Inlet								
SP	Broward County SPP - Segment 1 Feasibility	S	•••	•••	•••	••	•••	•••	
NV	Hillsboro Inlet								
SP	Broward County SPP - Segment II (Ft. Lauderdale)	R	•••	•••	•••	••	•••	•••	
SP	Broward County SPP - Segment III (Hollywood/ Hallandale)	R	•••	•••	•••	••	•••	•••	
NV	Port Everglades	N							1
SP	Dade County BEC - Sunny Isles	R	•••	•••	•••	••	•••	•••	
SP	Dade County BEC - Bal Harbor	R	•••	•••	•••	••	•••	•••	
NV	Bakers Haulover Inlet	N							5
SP	Miami Beach Section 227	E	•••	•••	•••	•	•••	•••	
NV	Government Cut/Miami Harbor	N							2
SP	Virginia Key	C	•	•••	•	•••	•	•••	
	Geographic Area: Florida Keys (Jacksonville District)								
NV	Largo Sound								
NV	Key West Harbor	N							3
	Geographic Area: Southwest Gulf Coast (Jacksonville District)								
NV	Gordon - Big Marco Pass	N							5
NV	Estero Pass/Fort Meyers								5
SP	Lee County BEC - Estero Island	A	•••	•••	•••	••	•••	•••	
SP	Lee County BEC - Captiva	R	•••	•••	•••	•	•••	•••	

Florida

Estimated Future Federal Costs

Project Name and Project Reliability	Phase	Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
	Geographic Area: Southeast Atlantic Coast (Jacksonville District)						
Palm Beach SPP - Jupiter/Carlin	R	$1,089,500	$0	$0	$0	$1,089,500	$0
Palm Beach SPP - Juno Beach	A	$0	$0	$0	$0	$0	$0
Lake Worth/Palm Beach Inlet	N	$15,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000	$3,000,000
Palm Beach SPP - Midtown Palm Beach	A	$0	$0	$0	$0	$0	$0
South Lake Worth/Boynton Inlet							
Palm Beach SPP - Ocean Ridge	R	$11,743,334	$430,500	$430,500	$4,648,000	$5,980,167	$254,167
Palm Beach SPP - Delray Beach	R	$0	$0	$0	$0	$0	$0
Palm Beach SPP - North Boca Raton	R	$5,775,000	$20,000	$5,755,000	$0	$0	$0
Palm Beach SPP - Central Boca Raton	A	$1,000	$1,000	$0	$0	$0	$0
Boca Raton Inlet							
Broward County SPP - Segment 1 Feasibility	S	$0	$0	$0	$0	$0	$0
Hillsboro Inlet							
Broward County SPP - Segment II (Ft. Lauderdale)	R	$10,142,100	$0	$835,550	$835,550	$8,471,000	$0
Broward County SPP - Segment III (Hollywood/ Hallandale)	R	$9,308,000	$0	$836,000	$0	$8,472,000	$0
Port Everglades	N	$0	$0	$0	$0	$0	$0
Dade County BEC - Sunny Isles	R	$24,893,304	$5,734,600	$67,418	$0	$15,862,000	$3,229,286
Dade County BEC - Bal Harbor	R	$87,978,175	$36,528,875	$44,074,300	$0	$7,375,000	$0
Bakers Haulover Inlet	N	$0	$0	$0	$0	$0	$0
Miami Beach Section 227	E	$0	$0	$0	$0	$0	$0
Government Cut/Miami Harbor	N	$85,344,091	$51,206,455	$34,137,636	$0	$0	$0
Virginia Key	C	$0	$0	$0	$0	$0	$0
	Geographic Area: Florida Keys (Jacksonville District)						
Largo Sound							
Key West Harbor	N	$0	$0	$0	$0	$0	$0
	Geographic Area: Southwest Gulf Coast (Jacksonville District)						
Gordon - Big Marco Pass	N	$0	$0	$0	$0	$0	$0
Estero Pass/Fort Meyers		$8,000,000	$4,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Lee County BEC - Estero Island	A	$0	$0	$0	$0	$0	$0
Lee County BEC - Captiva	R	$21,978,000	$0	$21,962,167	$15,833	$0	$0

Project Type

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Florida

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
	Geographic Area: Southwest Gulf Coast (Jacksonville District)								
NV	Boca Grande Channel/Charlotte Harbor								
SP	Lee County BEC - Gasparilla	R	●●●	●●●	●●●	●	●●●	●●●	
SP	Charlotte County	A	●●	●●●	●●	●	●●●	●●●	
SP	Sarasota County - Venice Beach	R	●●●	●●●	●●●	●●●	●●	●●●	
NV	Big Sarasota Pass/Sarasota Bay								
SP	Lido Key SPP	E	●●	●●●	●●	●	●●●	●●●	
NV	New Pass								
SP	Sarasota County BEC - Longboat Key	A	●●●	●●●	●●●	●●	●●●	●●●	
NV	Longboat Pass	N							5
SP	Manatee County SPP - Anna Maria Island	R	●●●	●●●	●●●	●●	●●●	●●●	
NV	Tampa Harbor	N							1
NV	Port Manatee	N							3
NV	Passa-A-Grille								
NV	Blind Pass								
SP	Pinellas County - Long Key	R	●●●	●●●	●●●	●	●●●	●●●	
NV	Johns Pass								
NV	St. Petersburg Harbor	N							4
SP	Pinellas County - Treasure Island	R	●●●	●●●	●●●	●	●●●	●●●	
SP	Pinellas County - Sand Key	R	●●●	●●●	●●●	●	●●●	●●●	
NV	Clearwater Pass/Harbor	N							5
NV	Intracoastal Waterway - Caloosahatchee River to Anclote River (IWW - CR to AR) and Casey's Pass/Venice Inlet	N							1
	Geographic Area: Big Bend Gulf Coast (Jacksonville District)								
NV	Ceader Key Harbor	N							5
NV	Keaton Beach								
	Geographic Area: Western Florida Panhandle (Mobile District)								
NV	GIWW Gulf County Canal	N							1
NV	Panacea Harbor	N							4
NV	GIWW Apalachicola Bay to Carrabelle	N							1
NV	Apalachicola Bay East Point	N							4
NV	Apalachicola Bay St. George Island Channel	N							4
NV	Apalachicola Bay Scipio Creek	N							4
NV	Apalachicola Bay Two Mile Channel	N							4
NV	GIWW East Bay to Apalachicola Bay	N							1
NV	Panama City: Entrance Channel	N							3
NV	Panama City: Bay Channel	N							3
SP	Panama City Beaches	C	●●●	●●●	●●●	●●●	●●●	●●●	
NV	GIWW Choctawhatchee Bay to St. Andrews Bay	N							1
NV	Destin/East Pass	N							4
NV	Pensacola Harbor	N							4

Footnotes

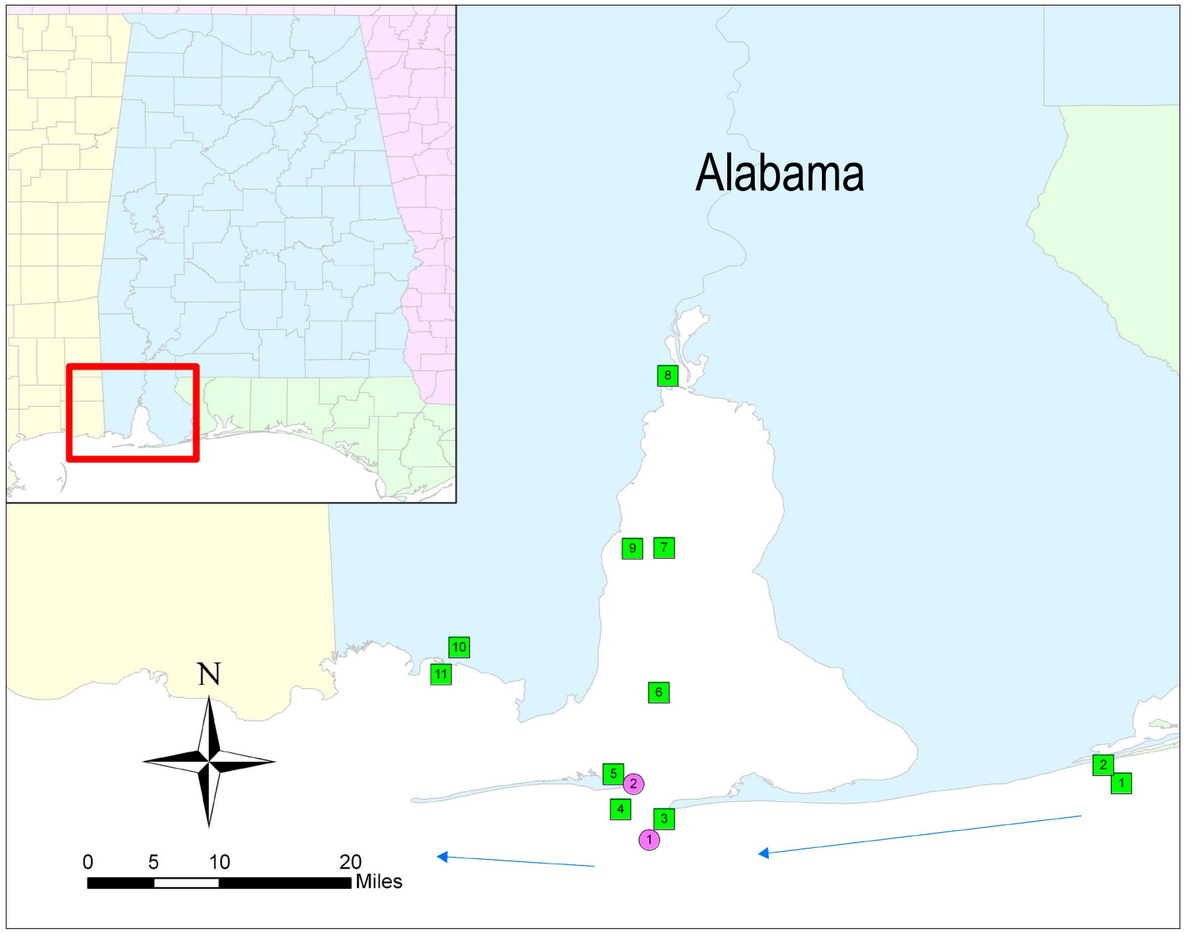
(1) Totals represents the totals estimated future federal costs for the entire state of Florida (Jacksonville and Mobile Districts combined).

Table Of Contents

Florida

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Geographic Area: Southwest Gulf Coast (Jacksonville District)							
Boca Grande Channel/Charlotte Harbor							
Lee County BEC - Gasparilla	R	$3,776,000	$0	$314,000	$3,462,000	$0	$0
Charlotte County	A	$0	$0	$0	$0	$0	$0
Sarasota County - Venice Beach	R	$9,064,000	$0	$0	$412,500	$8,651,500	$0
Big Sarasota Pass/Sarasota Bay							
Lido Key SPP	E	$7,829,000	$0	$0	$322,000	$7,507,000	$0
New Pass							
Sarasota County BEC - Longboat Key	A	$3,723,000	$0	$0	$185,500	$3,537,500	$0
Longboat Pass	N	$0	$0	$0	$0	$0	$0
Manatee County SPP - Anna Maria Island	R	$2,014,000	$2,014,000	$0	$0	$0	$0
Tampa Harbor	N	$24,831,000	$1,250,000	$21,081,000	$1,250,000	$1,250,000	$0
Port Manatee	N	$0	$0	$0	$0	$0	$0
Passa-A-Grille							
Blind Pass							
Pinellas County - Long Key	R	$3,723,000	$0	$0	$0	$185,500	$3,537,500
Johns Pass							
St. Petersburg Harbor	N	$0	$0	$0	$0	$0	$0
Pinellas County - Treasure Island	R	$4,418,000	$0	$0	$20,000	$4,398,000	$0
Pinellas County - Sand Key	R	$10,116,600	$3,600	$0	$0	$10,091,000	$22,000
Clearwater Pass/Harbor	N	$0	$0	$0	$0	$0	$0
Intracoastal Waterway - Caloosahatchee River to Anclote River (IWW - CR to AR) and Casey's Pass/Venice Inlet	N	$5,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000
Geographic Area: Big Bend Gulf Coast (Jacksonville District)							
Cedar Key Harbor	N	$0	$0	$0	$0	$0	$0
Keaton Beach							
Totals (Jacksonville District)		$502,405,639	$131,522,780	$181,131,571	$35,734,383	$112,161,667	$41,855,238
Geographic Area: Western Florida Panhandle (Mobile District)							
GIWW Gulf County Canal	N	$0	$0	$0	$0	$0	$0
Panacea Harbor	N	$700,000	$0	$0	$0	$0	$700,000
GIWW Apalachicola Bay to Carrabelle	N	$0	$0	$0	$0	$0	$0
Apalachicola Bay East Point	N	$0	$0	$0	$0	$0	$0
Apalachicola Bay St. George Island Channel	N	$0	$0	$0	$0	$0	$0
Apalachicola Bay Scipio Creek	N	$0	$0	$0	$0	$0	$0
Apalachicola Bay Two Mile Channel	N	$0	$0	$0	$0	$0	$0
GIWW East Bay to Apalachicola Bay	N	$0	$0	$0	$0	$0	$0
Panama City: Entrance Channel	N	$7,800,000	$2,600,000	$0	$2,600,000	$0	$2,600,000
Panama City: Bay Channel	N	$0	$0	$0	$0	$0	$0
Panama City Beaches	C	$0	$0	$0	$0	$0	$0
GIWW Choctawhatchee Bay to St. Andrews Bay	N	$0	$0	$0	$0	$0	$0
Destin/East Pass	N	$4,600,000	$0	$2,300,000	$0	$0	$2,300,000
Pensacola Harbor	N	$3,000,000	$0	$0	$0	$3,000,000	$0
Totals (Mobile District)		$16,100,000	$2,600,000	$2,300,000	$2,600,000	$3,000,000	$5,600,000
Totals [1]		$518,505,639	$134,122,780	$183,431,571	$38,334,383	$115,161,667	$47,455,238

CLICK TO TURN



Alabama

PROJECT LEGEND

Key	Type	Project Name
		Alabama Coast
1	SP	Mobile County - Dauphin Island Sand Pilot
2	SP	Mobile County - Sand Island Mitigation Project
1	NV	GIWW Dauphin Island to Santa Rosa Sound
2	NV	Bayou La Batre-Sound
3	NV	Bayou La Batre-Channel
4	NV	Perdido Pass
5	NV	Dauphin Island: Fort Gaines
6	NV	Dauphin Island: Pass Drury
7	NV	Mobile Harbor: River
8	NV	Mobile Harbor: Upper Bay
9	NV	Mobile Harbor: Lower Bay
10	NV	Mobile Harbor: Bar Channel
11	NV	Mobile Harbor: Theodore Ship Channel

Shore Protection Projects Project Reliability

- = GOOD
- = INTERMEDIATE
- = POOR
- = UNCONSTRUCTED
- = UNASSIGNED

Navigation Projects Project Reliability

- = GOOD
- = MODERATE
- = POOR
- = FAILING
- = FAILED
- = UNASSIGNED

△ = INLET ONLY, NOT A FEDERAL NAVIGATION PROJECT

S = STATEWIDE PROJECT

Mobile Bay

Perdido Beach

CLICK TO TURN

Alabama

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
			Alabama Coast						
SP	Mobile County - Dauphin Island Sand Pilot	N	x	x	x	x	x	x	
SP	Mobile County - Sand Island Mitigation Project	E	•••	•	•	•	•	•••	
NV	GIWW Dauphin Island to Santa Rosa Sound	N							4
NV	Bayou La Batre-Sound	N							3
NV	Bayou La Batre-Channel	N							3
NV	Perdido Pass	N							4
NV	Dauphin Island: Fort Gaines	N							4
NV	Dauphin Island: Pass Drury	N							4
NV	Mobile Harbor: River	N							1
NV	Mobile Harbor: Upper Bay	N							1
NV	Mobile Harbor: Lower Bay	N							1
NV	Mobile Harbor: Bar Channel	N							1
NV	Mobile Harbor: Theodore Ship Channel	N							2

Project Type

SP = Shore Protection
NV = Navigation
ER = Ecosystem Restoration

Project Reliability

Indicated by background colors:

Green = Good (SP, NV)
Yellow = Intermediate (SP), Moderate (NV)
Orange = Poor (NV)
Pink = Failing (NV)
Red = Poor (SP), Failed (NV)
Purple = Unconstructed (SP)

Phase

S = Study
E = Pre-construction engineering and design
A = Awaiting initial construction funds
P = Partial construction funds received
C = Initial construction completed
U = Under Construction
R = Renourishment(s) initiated
N = Navigation maintenance

Extent of Resources at Risk

Shore Protection
••• = Significant
•• = Moderate
• = Minimal
x = None

Navigation
1 = Demonstrated highest economic impact or >10M Tons. Imminent life safety impact.
2 = Demonstrated high economic impact or 5-10M Tons. Probable life safety impact.
3 = Demonstrated moderate economic impact or 1-5M Tons. Possible life safety impact.
4 = Low economic impact or <1M Tons. No life safety impact.
5 = Negligible economics (Recreation Harbors, No commercial Activity). No life safety impact.

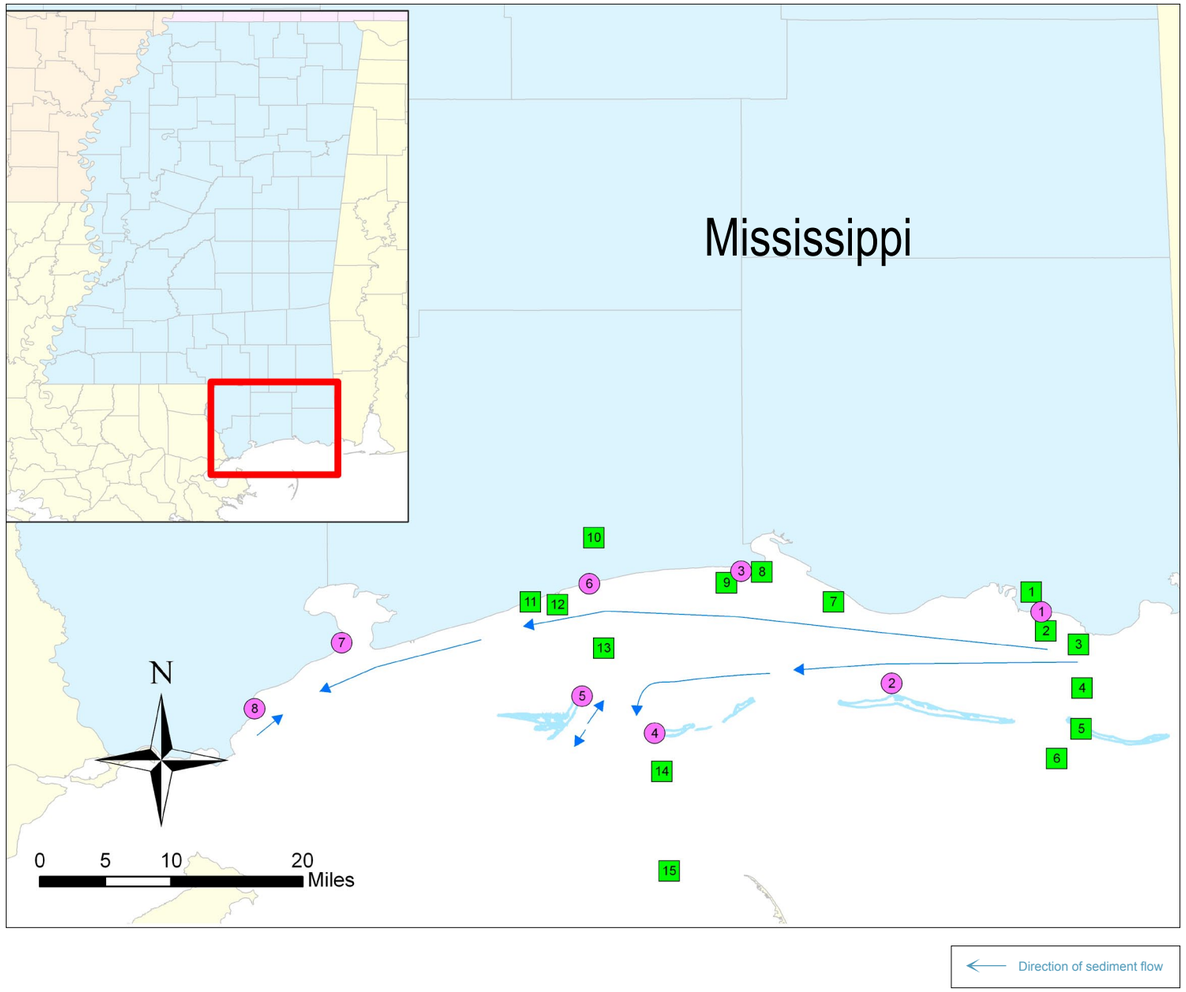
For complete definitions see page 7.

Click legend for more information.

Alabama

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
		Alabama Coast					
Mobile County - Dauphin Island Sand Pilot	N	$0	$0	$0	$0	$0	$0
Mobile County - Sand Island Mitigation Project	E	$0	$0	$0	$0	$0	$0
GIWW Dauphin Island to Santa Rosa Sound	N	$0	$5,500,000	$-	$5,500,000	$-	$5,500,000
Bayou La Batre-Sound	N	$200,000	$100,000	$0	$0	$100,000	$0
Bayou La Batre-Channel	N	$800,000	$400,000	$0	$0	$400,000	$0
Perdido Pass	N	$2,800,000	$0	$1,400,000	$0	$0	$1,400,000
Dauphin Island: Fort Gaines	N	$1,000,000	$0	$500,000	$0	$0	$500,000
Dauphin Island: Pass Drury	N	$1,000,000	$0	$500,000	$0	$0	$500,000
Mobile Harbor: River	N	$19,000,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000
Mobile Harbor: Upper Bay	N	$19,000,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000
Mobile Harbor: Lower Bay	N	$19,000,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000	$3,800,000
Mobile Harbor: Bar Channel	N	$3,000,000	$1,000,000	$0	$1,000,000	$0	$1,000,000
Mobile Harbor: Theodore Ship Channel	N	$2,400,000	$800,000	$0	$800,000	$0	$800,000
Totals		$68,200,000	$19,200,000	$13,800,000	$18,700,000	$11,900,000	$21,100,000

CLICK TO TURN



Mississippi

PROJECT LEGEND

Key	Type	Project Name
		Mississippi Coast
1	SP	Mississippi Sound - Barrier Islands Ecosystem Restoration Cat Island
2	SP	Mississippi Sound - Barrier Islands Ecosystem Restoration North Shore, West Ship Island
3	SP	Mississippi Sound - Barrier Islands Ecosystem Restoration Littoral Zone Placement
4	SP	Harrison County Beach Dunes
5	SP/ER	Hancock County - Bayou Caddy Shoreline Protection
6	SP	Hancock County - Bay St Louis Seawall
7	SP/ER	Harrison County - Deer Island Ecosystem Restoration - I
8	SP/ER	Jackson County - Pascagoula Beach Ecosystem Restoration
1	NV	Biloxi: East Access
2	NV	Biloxi: Harrison County
3	NV	Biloxi: Lateral
4	NV	Biloxi: West Approach
5	NV	Gulfport: Anchorage Basin
6	NV	Gulfport: Commercial Small Craft
7	NV	Gulfport: Sound
8	NV	Gulfport: Bar
9	NV	Gulfport: Gulf
10	NV	Pascagoula: River
11	NV	Pascagoula: Upper Sound
12	NV	Pascagoula: Lower Sound
13	NV	Pascagoula: Bayou Casotte
14	NV	Pascagoula: Horn Island Pass
15	NV	Pascagoula: Bar

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S = STATEWIDE PROJECT

Deer Island

Bay St. Louis

CLICK TO TURN

Mississippi

Project Type	Project Name and Project Reliability	Phase	Extent of Resources at Risk: Structures (residential, commercial)	Environment and Habitat	Infrastructure (roads, water/sewer lines, boardwalks, navigation structures)	Critical Facilities (police, fire, schools, hospitals, nursing homes)	Evacuation Routes	Recreation	Consequence/ Economic Impact Rating
			Mississippi Coast						
SP	Mississippi Sound - Barrier Islands Ecosystem Restoration Cat Island	E	•••	•••	••	••	••	••	
SP	Mississippi Sound - Barrier Islands Ecosystem Restoration North Shore, West Ship Island	E	•••	•••	••	••	••	•••	
SP	Mississippi Sound - Barrier Islands Ecosystem Restoration Littoral Zone Placement	E	•••	•••	••	••	x	x	
SP	Harrison County Beach Dunes	C	•••	•••	•••	•••	•••	•••	
SP/ER	Hancock County - Bayou Caddy Shoreline Protection	U	••	•••	••	•	••	•	
SP	Hancock County - Bay St Louis Seawall	U	•••	•••	•••	•••	•••	•••	
SP/ER	Harrison County - Deer Island Ecosystem Restoration - I	U	•••	•••	••	•	•••	•••	
SP/ER	Jackson County - Pascagoula Beach Ecosystem Restoration	U	•••	•	•••	•	•••	•	
NV	Biloxi: East Access	N							4
NV	Biloxi: Harrison County	N							4
NV	Biloxi: Lateral	N							4
NV	Biloxi: West Approach	N							4
NV	Gulfport: Anchorage Basin	N							3
NV	Gulfport: Commercial Small Craft	N							4
NV	Gulfport: Sound	N							3
NV	Gulfport: Bar	N							3
NV	Gulfport: Gulf	N							3
NV	Pascagoula: River	N							1
NV	Pascagoula: Upper Sound	N							1
NV	Pascagoula: Lower Sound	N							1
NV	Pascagoula: Bayou Casotte	N							1
NV	Pascagoula: Horn Island Pass	N							1
NV	Pascagoula: Bar	N							1

Project Type

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For complete definitions see page 7.

Click legend for more information.

Mississippi

Project Name and Project Reliability	Phase	Estimated Future Federal Costs: Total (FY 2012 - FY 2016)	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
		Mississippi Coast					
Mississippi Sound - Barrier Islands Ecosystem Restoration Cat Island	E	$0	$0	$0	$0	$0	$0
Mississippi Sound - Barrier Islands Ecosystem Restoration North Shore, West Ship Island	E	$0	$0	$0	$0	$0	$0
Mississippi Sound - Barrier Islands Ecosystem Restoration Littoral Zone Placement	E	$70,000,000	$0	$30,000,000	$40,000,000	$0	$0
Harrison County Beach Dunes	C	$0	$0	$0	$0	$0	$0
Hancock County - Bayou Caddy Shoreline Protection	U	$0	$0	$0	$0	$0	$0
Hancock County - Bay St Louis Seawall	U	$0	$0	$0	$0	$0	$0
Harrison County - Deer Island Ecosystem Restoration - I	U	$4,000,000	$4,000,000	$0	$0	$0	$0
Jackson County - Pascagoula Beach Ecosystem Restoration	U	$0	$0	$0	$0	$0	$0
Biloxi: East Access	N	$1,200,000	$400,000	$0	$400,000	$0	$400,000
Biloxi: Harrison County	N	$100,000	$0	$0	$100,000	$0	$0
Biloxi: Lateral	N	$900,000	$300,000	$0	$300,000	$0	$300,000
Biloxi: West Approach	N	$900,000	$300,000	$0	$300,000	$0	$300,000
Gulfport: Anchorage Basin	N	$4,500,000	$1,500,000	$0	$1,500,000	$0	$1,500,000
Gulfport: Commercial Small Craft	N	$900,000	$300,000	$0	$300,000	$0	$300,000
Gulfport: Sound	N	$4,500,000	$1,500,000	$0	$1,500,000	$0	$1,500,000
Gulfport: Bar	N	$4,500,000	$1,500,000	$0	$1,500,000	$0	$1,500,000
Gulfport: Gulf	N	$4,500,000	$1,500,000	$0	$1,500,000	$0	$1,500,000
Pascagoula: River	N	$8,000,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000
Pascagoula: Upper Sound	N	$6,500,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000
Pascagoula: Lower Sound	N	$6,500,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000
Pascagoula: Bayou Casotte	N	$8,000,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000	$1,600,000
Pascagoula: Horn Island Pass	N	$6,500,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000
Pascagoula: Bar	N	$6,500,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000	$1,300,000
Totals		$138,000,000	$19,700,000	$38,400,000	$55,800,000	$8,400,000	$15,700,000

Opportunities for Action

1. **Bayou Caddy Marsh Restoration:** Restoration of 18 acres of eroded shoreline. Effort assists with preservation of 3000 acre marsh. Utilizes containment dike with portion of fill provided from nearby Bayou Caddy navigation project. Coordinated with maintenance of navigation channel.
2. **Pascagoula Beach Ecosystem Restoration Project:** Creation of beach that parallels 1.4 miles of Beach Blvd. Beach install in front of existing seawall will diminish undermining. Extends seaward 150' and utilizes Geotube and containment wall. All fill material provided from nearby west Pascagoula navigation project.
3. **Bay St Louis Seawall:** Poured concrete stepped seawall fronting Beach Blvd in Bay St Louis, Ms. Elevation above grade ranges from 2' to 10'. Project parallels road for 1.6 miles. At the toe of seawall, a beach will be installed at 6' above sea level and extend seaward 150' to the bay.
4. **Harrison County Beach Dunes Project:** Creating rectangular units from planted grasses. Installed in an array across the length of the existing beach. Grasses will capture sand and facilitate natural accrual of dunes. Will limit erosion and provide damage reduction from waves. Dunes will also provide habitat for bird species.

CLICK TO TURN

Dewey Beach, Delaware

Andrews River Saquatucket Harbor, Massachusetts

Atlantic Intracoastal Waterway, North Carolina

Gillard Island, Mobile Bay, Alabama

Virginia Beach, Virginia

Pinellas Beach, Florida

Misquamicut Beach, Rhode Island

Asbury Park and Loch Arbor, New Jersey

Perdido Pass, Alabama

Sand Key, Florida

For more information, contact:

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